A Preliminary Report On Alternatives To The Basic Formula Price

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Submitted To:
Director Of The Dairy Division
Agricultural Marketing Service

By:
Basic Formula Price Committee

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Executive Summary - BFP Committee Report

The Basic Formula Price (BFP) committee was appointed in May 1996 by Richard M. McKee, Director of the Dairy Division, AMS. The BFP committee was to consider alternatives to the current BFP as part of the Federal milk order restructuring process.

The BFP is used as the price for milk used in manufactured dairy products under the Federal milk order program. Class I differentials are added to the BFP to determine Class I, or fluid product, prices for the marketing orders. The BFP has, since the early 1960s, been based on a survey of prices paid for manufacturing grade (Grade B) milk by plants in Minnesota and Wisconsin (the M-W price series). An updater based on month-to-month changes in commodity prices has been applied to the M-W series since May 1995 to determine the current BFP. The continuing decline in the volume of Grade B milk produced in the upper Midwest region and nationally is an indication that the M-W price series will not be statistically reliable in the future.

The committee based its consideration of possible options on written public comments, input provided during a public BFP Forum held in Madison, Wisconsin; a survey of transaction prices for manufactured dairy products; analysis by a group of university researchers, the University Study Committee (USC); and extensive study and analysis by the BFP committee. The BFP Committee evaluated options to the BFP against the criteria of stability, predictability, simplicity, uniformity, transparency, sound economics and reduced regulation.

Options Considered

- Economic formulas
- Futures markets
- Cost of production
- Competitive pay price
- Product price and component formulas
- California pricing
- Informal rulemaking
- Pooling differentials only

At this time, the BFP committee has identified four options for further discussion and debate to replace the BFP for milk used in manufactured dairy products. These options include: two multiple-component pricing plans, a product price formula, and a competitive pay price.

Option 1 uses a four-class, multiple component pricing plan to compute prices for nonfat solids and butterfat used in butter and powder (Class IV) and a second multiple component pricing plan to compute prices for protein, butterfat and lactose used to make cheese (Class III). Class I & II prices could be set independently of the manufacturing prices, or computed by addition of differentials to a weighted moving average of the manufacturing prices or to the higher of the Class III or Class IV prices.

Option 2 uses a three-class multiple component pricing plan. This option is based on a modification of the “Benchmark Component Pricing” plan developed by the USC, which computes a protein price from a cheese price, a butterfat price from a butter price, and an other solids price from a powder price. The Benchmark Component Price is then calculated by multiplying each of the component prices by a standard factor representing the share of each component in a hundredweight of milk. This option has only one manufacturing class consisting of butter, powder and cheese.

Option 3 uses a butter/powder-cheese formula to compute a BFP that would function as the minimum price for manufacturing milk used in all three products. It would be the Class III price in a three-class market and possibly the price mover for Class I and Class II. The formula uses seasonal product yields and a California cost-based make allowance, and the contribution of each manufactured product is weighted by its U.S. production.

Option 4 combines a competitive pay price series and a product price formula. The competitive pay price would be the national weighted average price paid for Grade A milk used to produce manufactured dairy products for the preceding month, less performance premiums, plus hauling subsidies. A product price formula would be used to update the competitive pay price information to the current month. The competitive pay price would be collected by NASS for a representative sample of states that account for the majority of Grade A milk used to produce manufactured products. This price series does not currently exist and would have to be developed.

BFP And Related Pricing

Class I prices. The current system of using Class I differentials added to a manufacturing price may be continued. This report questions whether changes in the price for manufacturing milk are reliable indicators of changes in the supply and demand for fluid products. Fluid milk price stability could be achieved by basing Class I prices on an economic formula, possibly using cost of production or a feed cost factor in the formula; or on a moving average of a manufacturing price. Breaking the link between the BFP and Class I & Class II would also allow for using a different butterfat price for Class I than for the other classes. Recent volatility in butterfat values has caused considerable fluctuations in the value of Class I skim milk, making it difficult for handlers to provide customers with advance prices.

Class II prices. Class II prices could be determined by a fixed differential from either a Class III or Class IV price. An alternative, using the component pricing plans, would be to split Class II into two classes: one class for milk used in products whose yield depends on protein content, and the other for milk used in products whose yield depends on nonfat solids. Another alternative would be to combine the

Class II protein-dependent products with cheese and the Class II nonfat solids-dependent products with butter and powder, resulting in three classes with a different product classification than at present.

The BFP Committee will continue to study and analyze BFP alternatives as noted above and in response to public comments.

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Appendices

Foreword

The Basic Formula Price (BFP) Committee was charged with stimulating industry suggestions in developing a replacement for the current BFP, and to recommend what alternatives, if any, should be considered for adoption.

This preliminary report prepared by the BFP Committee reflects proposals from interested persons through written ideas, suggestions, opinions, and from comments expressed at a public meeting held in Madison, Wisconsin. The Committee reviewed these proposals and addressed many of them in this report.

In addition, the BFP Committee has been assisted by a University Study Committee (USC) in analyzing the performance of several of the proposed alternatives. Data and analysis from the USC are used in this report; a final report from the USC is forthcoming this year.

This preliminary report offers four options to derive a BFP which the Committee believes merit further consideration and discussion. The Department is open to continuous public comment and will revise this report as additional information becomes available. The BFP Committee will review all comments resulting from this report and consider new or revised proposals.

Assignment

The Federal Agriculture Improvement and Reform Act of 1996 (1996 Act) became law on April 4, 1996, and gives USDA three years to consolidate the existing Federal milk marketing order system into no more than 14 and no fewer than 10 marketing areas.

USDA's Agricultural Marketing Service (AMS), through its Dairy Division, embarked on the task. In early May 1996, Richard M. McKee, Director of the Dairy Division, announced procedures to implement the requirements of the 1996 Act as they pertain to the Federal milk order program (Appendix 1), and appointed four committees to review and make recommendations for the new marketing order system. The BFP Committee was instructed to stimulate industry suggestions to modify or replace the current BFP and to recommend alternatives for further discussion and consideration.

Three broad goals for a BFP replacement guided the Committee's assignment. Such a price series:

1) must meet the supply and demand criteria set forth in the Agricultural Marketing Agreement Act of 1937 (the 1937 Act)[1];

2) should not deviate greatly from the general level of the current BFP; and

3) should demonstrate the ability to change in reaction to changes in supply and demand.

In addition, the BFP Committee was instructed to consider a means for determining class prices for milk used in manufactured products, if the new BFP used as a mover for Class I and Class II prices is not identical to that used to establish Class III (or Class IV) prices.

Concerning the second goal, the Committee is cognizant of the current public debate regarding the influence of cheese prices in determining the BFP and therefore, BFP replacements not heavily weighted by cheese prices are more likely to deviate from the current BFP.

Footnotes May Be Found On Pages 57 and 58.

Public Input

The Department invited all interested parties to submit written comments and proposals. More than 600 comments have been received to date, on a variety of issues associated with the reform process. Comments addressing the BFP ranged from suggested philosophies that USDA should follow in seeking a replacement BFP, to concerns with the current BFP and its method of calculation, and to specific proposals for replacements. All comments relating to the BFP were considered. Appendix 6 contains summaries of public comments received.

On July 29, 1996, a BFP forum was held in Madison, Wisconsin, to gather information for a BFP replacement and to consider issues surrounding the current BFP. Comments were offered by over 30 parties, including three members of Congress.

In addition to the public forum, over 70 manufacturing plants in 25 states, that agreed to cooperate with this study, were surveyed by Federal Milk Market Administrator personnel to gather transaction prices of manufactured dairy products for possible use in determining a new BFP. Those transactions prices were summarized and published in the Dairy Commodity Price Survey,[2] available from the Chicago Regional Market Administrator in Lisle, Illinois.

University Input

Recognizing the expertise available within the academic community, a University Study Committee (USC) was commissioned to conduct objective analyses of the performance of numerous alternatives to the current BFP. The ten members of the USC represent six land grant universities around the country. USC membership and Interim Report information are listed in Appendix 2.

Background

The M-W Price Series

In the early years of the Federal milk order program, prices that served the function of the present BFP were determined primarily from evaporated milk code prices or condensery pay prices. Some markets developed formulas to determine the basic price for milk used in manufactured products and fluid milk prices. These formulas, however, did not always reflect the actual relationship between supply and demand. Furthermore, when adjacent markets priced milk using different formulas, price disparities occurred between competing handlers regulated under different orders.

The Minnesota-Wisconsin manufacturing grade milk price series (M-W) was adopted in the early 1960s. The M-W was a competitive pay price obtained from a survey of manufacturing plants in Minnesota and Wisconsin, making payments to producers of Grade B (manufacturing grade) milk. This base month M-W was updated by a survey of a smaller number of plants' pay prices for the succeeding month. At the time the M-W was developed, approximately 50 percent of the total U.S. Grade B milk was produced in those two states.

The underlying force for replacing the M-W was the declining number of plants purchasing and the declining volume of manufacturing grade milk in Minnesota and Wisconsin. USDA's National Agricultural Statistics Service (NASS), which conducts the survey, considered the number of plants eligible for the smaller updating survey too few to be statistically reliable as an indicator of the value of milk.

Grade B milk represents a much smaller portion of total milk marketings than it did when the M-W was conceived. In 1970, 46 percent of Wisconsin milk marketings and 71 percent of Minnesota milk marketings were Grade B. By 1989, these shares

had declined to 17 and 26 percent; and by 1995, Grade B represented just 8 and 11 percent of marketings in the two States.

Nationally, Grade B milk constituted less than 5 percent of total U.S. milk marketings in 1995, compared with 9 percent in 1989--a decline of 45 percent. Minnesota and Wisconsin accounted for 2.9 billion pounds, or about 42 percent of the national Grade B milk marketed in 1995; but this was less than 2 percent of all milk marketed in the U.S. in 1995.

The Current BFP

In June 1992, a national hearing was held to consider changes, because the updating sample for the old M-W was declining to an extent that reliable numbers soon would no longer be available. It would only be a matter of time before the total number of plants receiving and paying for smaller volumes of Grade B milk in Minnesota and Wisconsin would also render the base month data statistically unreliable as an indicator of the value of Grade A milk used in manufacturing. The decision based on the hearing recognized that "the adoption of the base month M-W price, or any Grade B milk series, is only a short term solution, since the amount of Grade B milk production is expected to continue declining."[3]

The current BFP replaced the M-W in 1995, but there are similarities. The current BFP uses the same base month competitive pay price, but updates that price with a formula that uses changes from the base month to the next month in prices paid for butter, nonfat dry milk, and cheese (Appendix 3). Updating is necessary to reflect the current supply and demand conditions for milk used in manufactured products, since the survey of competitive pay prices is not available until a month after the milk has already been marketed.

Thus, while the current BFP continues to reflect prices paid to producers for Grade B milk, and updates those prices to reflect the current market value of manufactured products, it too is nearing the end of its useful life.

A Note on Definitions and Terminology

The BFP, as it is currently used in the Federal milk order program, is the price for raw milk used as a "mover" for Class I and Class II: the BFP plus a fixed value, or differential, establishes both the Class I and Class II prices. The BFP also is the price for milk used in manufacturing, or the Class III price, though seasonal adjustments are made in some Federal milk orders to determine the Class III price.

There have been suggestions that the functions of the BFP be separated into one price series that would serve as the price "mover" for Class I and possibly Class II milk, and a separate price series that would establish the price for Grade A milk used in manufacturing (Class III and/or Class IV). Separation of the two functions of the BFP is discussed below. At this point, terminology that differentiates between the two separate functions may be helpful. A price series used as a "mover" for Class prices will be referred to as "the class price adjuster." Any remaining classes that have their own price series will be named accordingly. For example, the price series used for Class III will be referred to as the Class III price.

The term "manufacturing grade milk" is generally considered to be the same milk as Grade B milk. However, the phrase "milk used in manufacturing" means all milk used in manufacturing (primarily butter, cheese and nonfat dry milk) and includes Grade A milk and Grade B milk.

The term "surplus" carries a unique meaning when applied to Federal milk orders. The Federal milk orders define surplus milk as milk not needed for fluid or bottling uses. This meaning differs from the more widely understood idea of surplus, since

most parties would consider surplus a quantity in excess of all milk uses for which there is demand.

Evaluation Criteria for a Replacement BFP

The BFP Committee established a set of criteria that a replacement for the BFP should meet:

- stability and predictability;
- simplicity, uniformity, and transparency;
- sound economics--e.g., consistency with market conditions; and
- reduced regulation.

Stability refers to a moderation of month-to-month fluctuations of the BFP. A more stable price that does not fluctuate widely will improve the wholesale and retail pricing structure in the industry, and facilitate an improved planning horizon for both producers and processors. A **predictable** BFP would allow the industry to improve long range planning, thereby contributing to economic efficiency.

The new BFP should be **simple** to derive and easy to understand by industry, since it would be used in all Federal milk orders. The BFP should also be **transparent**. That is, it should be possible to see and understand the derivation of the BFP, even if a complex formula is used to determine the price. And, the new BFP should be able to be applied **uniformly** within orders, and on a national basis. (However, this does not preclude the possibility of regional adjustments to the BFP.)

The most important criterion is **sound economics**--the ability of the BFP to reflect the supply and demand for raw milk. Currently, the BFP is intended to represent the interaction of supply and demand for manufacturing milk and thereby, the supply and demand for fluid milk. A replacement that fits this traditional role suggests that the supply and demand for manufacturing milk be reflected in the new price.

Sound economics also implies that minimum prices for milk used in manufactured products will be market-clearing. The use of two classes to price milk used in traditional “surplus” products of butter, nonfat dry milk, and cheese (that is, milk in excess of that needed to fill fluid demand), helps to assure that only one product will have to be priced at a level that clears the market. The market-clearing product in most cases is nonfat dry milk.

The criterion of sound economics is sufficiently important that it may override other criteria. For instance, supply and demand factors that result in significant price fluctuations may come at the expense of stability; simplicity may conflict with the need to incorporate important supply and demand factors reflecting market conditions for milk. A degree of complexity may be necessary to accommodate sound economics.

Finally, **reduced regulation** is a desirable trait of a new BFP, to the extent that it does not come at the expense of sound economics. One function of the BFP is to represent a market-clearing price for milk used in manufactured products. Discovering such a price should be attempted while reducing regulation, but it is of less importance than accurately reflecting the market forces of supply and demand.

A replacement for the BFP could affect regulation in two ways. In reporting price information to determine the BFP, many plants currently report payroll information on a monthly basis. A revised method for determining the BFP could entail reporting manufactured product transaction prices, manufacturing costs and yields, and additional auditing to assure data accuracy. Second, a system of pricing milk used in manufactured products based on components might require increased pool reporting and accounting to determine component usage.

The USC also established criteria for screening replacements for the BFP. Alternatives that met the USC's first threshold criteria were then subjected to further analysis. The USC's first level criteria are:

- a long life--alternatives that were expected to have a useful life of less than 10 years were eliminated;
- understandable and transparent--the procedure of deriving a price must be easy to see and understand; a "black box" method is unacceptable. (A black box method is one in which the price is announced with no publicly-known data, and only those announcing the price know the specific details of the derivation of the price.)
- geographic uniformity--the same BFP would serve as the minimum price across the country;
- reflect the manufactured milk market--the values of milk used in butter, powder, and cheese would be combined into a single formula price.

For its second threshold criteria, the USC used a form of time-series analysis called vector autoregression (VAR), to test whether the proposed BFP replacements would satisfy the following:

- reflect national market conditions for manufactured dairy products--the price for milk used in manufacturing should reflect the supply and demand for milk used in those products, measured by simulating a change in the level of stocks and observing the impact on prices generated by each BFP option;
- reflect changes in the value of milk used in manufacturing--observing how well each option responds to prices of butter, powder, and cheese; and,
- provide price stability--as reflected by low standard deviations and low price variation in response to a change in stocks.

Replacement Options For The BFP

Many of the comments received by the Department and by the BFP Committee were general in nature. For example, a comment might state that a competitive pay price is desirable, but no specifics were included to suggest how to derive such a price. To illustrate particular types of proposals, the alternatives presented and analyzed here were taken from comments received that included specific formulas or guidelines.

Specific proposals or options received by the Committee were grouped into the following categories: economic formulas; futures markets; cost of production; competitive pay price; product price or component formulas; California pricing; pooling differentials only; and informal rulemaking for changes to the BFP. While the BFP Committee suggests options from two of these categories, each category is discussed, along with their pros and cons.

In addition, the four options identified by the BFP Committee as suggested replacements to the current BFP are not identical to the options in the USC's preliminary report. From a total of 32 options, the USC narrowed the list to two options that best satisfied their two-stage criteria. While the BFP Committee observed a similar set of criteria to guide selection of options for further consideration, the Committee was also respectful of the need to consider options that clearly had strong support from the public input received.

Economic Formulas

In this report, economic formulas are mathematical or statistical formulas that incorporate factors reflecting supply and demand for a particular commodity or product. Economic formulas typically include factors such as consumer income, production, prices of competing products, population levels or per capita

consumption, and inventories. Economic formulas often have drawbacks. They can be difficult to understand by everyone but the individual that develops them. They can be cumbersome to use, and often they require significant resources to keep the formula current so that desired results are achieved. Despite their drawbacks, a number of proposals were offered using an economic formula to replace the current BFP. Therefore, two of those proposals are presented here for public reaction and debate.

Formula Option 1--One proposal (Hardin) would replace the BFP with a formula using a commodity reference price (80 percent weight), cost of production (15 percent weight), and cost of dairy products to consumers (5 percent weight). In this proposal, the commodity reference price is the Wisconsin assembly point price for cheese; to represent cost of production, ERS national annual average cost of production was used; and for consumer costs, the retail price of dairy products published by the Bureau of Labor Statistics was used. With the exception of the Wisconsin assembly point price, data for the Hardin option were not suggested in Hardin's proposal specifically; the BFP Committee selected data for illustration purposes. Pros and cons of the data, and the problems associated with the specific data and the general formula, are discussed below.

Formula Option 2--A second proposal (Jesse) offered both a specific weighting for components of the formula, as well as the specific data series to be used to calculate the formula-derived BFP replacement. Jesse's formula would use a dairy parity index, disposable per capita income, and an index of manufactured dairy product prices. The price developed should also, according to Jesse, be adjusted by a productivity index, since none of the indices above incorporate changes in dairy productivity. Like Hardin's proposal, Jesse's formula is intended to capture both changes in supply and demand, by including consumer income, product prices, and costs of production. Data included in Jesse's formula are contained in Appendix 4.

In the Jesse formula, the dairy parity index is constructed by weighting NASS' Prices Paid Index by the relative importance of components in milk production costs. Disposable per capita income is an index value, with 1990-92 as the base. The index of manufactured dairy product prices is itself a weighted average of monthly prices of Grade A butter, block cheddar cheese, and nonfat dry milk. Jesse proposed a weighting of the formula components as 0.6 for the parity index, and 0.2 for both the consumer income index and manufactured dairy price index component.

Evaluating the Formula Options

Although the formulas presented seem straightforward enough--the weights are clearly defined, and the components are clearly intended to capture supply and demand factors--the desirable characteristics of a new BFP derived from the formulas are not necessarily assured. Stability, predictability, and transparency of the formulas depend on levels of inflation in the general economy--modest or accelerating inflation will introduce instability and bias the predictability of the results. Changing technology should lead to reevaluating the weights of various cost components, but this subjects the formula to legitimate debate and scrutiny that in turn diminish the simplicity, transparency, and stability of the formula-derived BFP. Thus, there is a significant risk of the "black box" methodology in formulas; unveiling the methodology invites further debate and scrutiny.

Assuming consensus could be reached on all of the issues associated with the construction of the formulas, there remains the question of how well the formula-derived BFP performs, whether in relation to the current BFP or to the underlying expectations for a sound economic-driven BFP. The BFP Committee computed monthly price series based on both economic formula proposals. Appendix 7 contains monthly prices for the Hardin, Jesse, and current BFP for the period 1991-1996, where data was available. Only the years 1992-95 have data for the BFP and

the two economic formulas. Therefore, the relative performance is compared only for those years.

Figure 1
Comparison Of The Basic Formula Price With Jesse & Hardin Economic Formulas

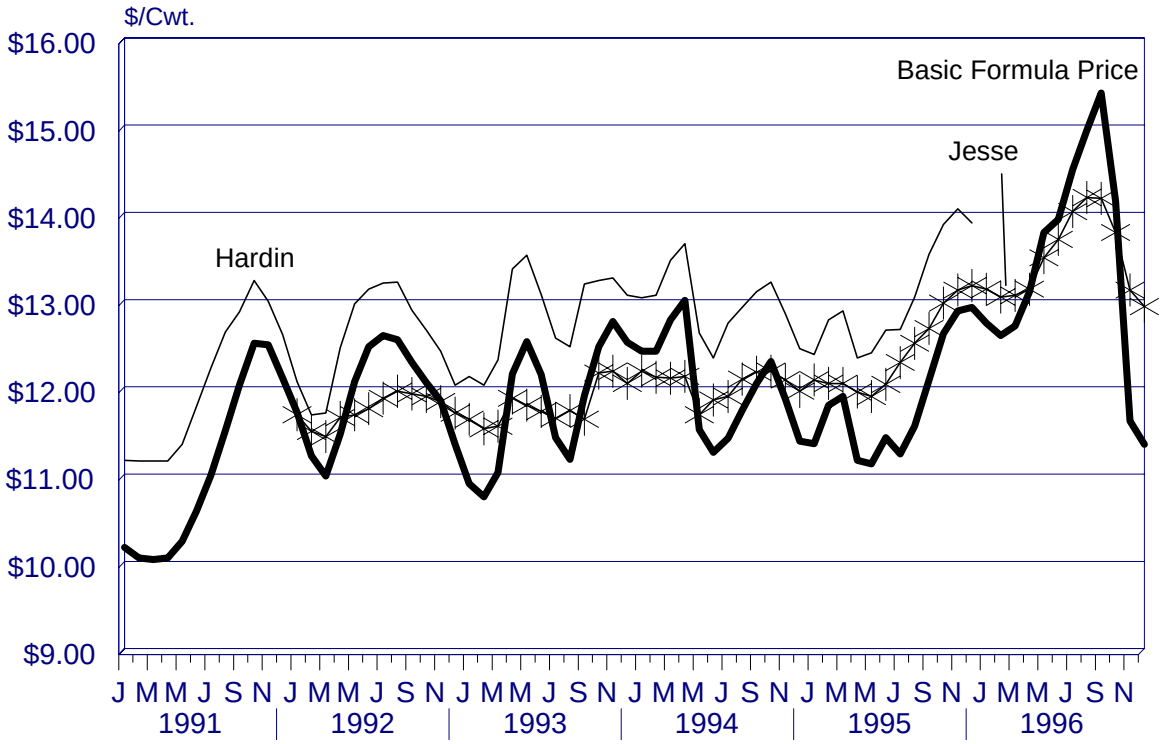


Figure 1 shows the Hardin, Jesse, and the current BFP series. Comparison of the two economic formulas with the BFP shows that the Hardin BFP averaged $0.96 per cwt. above the BFP for 1992-1995; the Jesse BFP averaged $0.12 per cwt above the BFP over the same period. The Hardin BFP follows the pattern of the current BFP (that is, the value difference is stable over the time period), and therefore satisfies the desired criteria that a new series react to changes in supply and demand. The difference of nearly $1 per cwt in the new and current BFP is

somewhat problematic, but reflects the heavy influence of the commodity reference price in deriving the new BFP.

By contrast, the Jesse BFP does not closely track the pattern of the current BFP; the series responds more slowly to changes in short term supply and demand--an important feature for a new BFP. However, the Jesse BFP does produce a price series that is very close to the current BFP on an average basis. The Jesse BFP is also more stable than the current BFP, as evidenced by the flatter price curve in Figure 1.

Stability of economic formulas depends on the variables used in the formula, and the weight they receive. Since agricultural commodity markets can be relatively unstable because of inherent characteristics such as seasonality, weather, perishability, etc., the more weight a commodity price has in a formula, the more unstable the formula is likely to be. The Hardin BFP gives an 80-percent weight to the commodity reference price, while the Jesse BFP only gives a 20-percent weight to the commodity price indices--hence, the greater stability in the Jesse price series. The trade-off, of course, is that the commodity-weighted formula reacts more quickly to changes in market conditions. By contrast, factors such as cost of production, per capita consumption, population, and income tend to be more stable in periods of little or no inflation, and thus have a more stabilizing influence on formula-driven price series.

Data and formula construction are two significant issues associated with economic formulas such as the Hardin or Jesse formulas. While Jesse actually supplied the specific data and weights to use, the BFP Committee constructed the Hardin BFP based on selection of data to reflect the formula components suggested by Hardin. In either formula, however, there is an implicit assumption that the components are correctly specified and reflect the appropriate weight that each factor should have in the market. Data availability is another problem. Some data are available only on an annual basis, and presumably a monthly price is desirable. This leads to

substituting data that may not be suitable or equivalent, and introduces a bias into the formula. In both instances, the developer must exercise considerable judgment in constructing the formula price.

The USC also examined economic formulas. One, a cost of production formula, is discussed below in this report. The USC rejected a second formula based on econometric models as being too difficult to understand, with "the developer... frequently being the only one to fully understand its intricacies," and needing constant adjustment, re-specification, and re-estimation to keep up with data availability. The third economic formula considered by the USC used a feed cost snubber or a stocks snubber to moderate movements of a butter/powder-cheese product price formula. The USC concluded that although this formula met its first threshold criteria, it performed less well than other alternatives on the second threshold criteria.

Futures Markets

Several proposals suggested the use of futures markets for determining the BFP. Most comments were general, expressing an opinion that the futures market would represent a national competitive price for milk. Several proposals suggested using the cheese futures or nonfat dry milk futures in product price formulas. Some proposals that suggested the use of futures markets also expressed concerns about futures markets--focusing on the lack of trading volumes and lack of confidence in their long term viability. Parties also pointed to the relatively short history of dairy futures. Trading in fluid milk began in December 1995 on the Coffee, Sugar, and Cocoa Exchange (CSCE), and in January 1996 on the Chicago Mercantile Exchange (CME). Trading in cheddar cheese and nonfat dry milk began in June 1993. (A new cash exchange for cheese is set to open trading May 2, 1997, on the CME, and the National Cheese Exchange (NCE) will cease trading after April 25. CSCE has proposed a BFP futures, with trading to begin April 8, 1997.)

The CSCE submitted a proposal to replace the current BFP with a weighted average of transaction prices for fluid milk futures on the CSCE. A weighted average for each trading day of the futures contract for the current month would be computed, and each day the new average would be combined with prior days' trading to compute an ongoing weighted average for the month. Only the last day of trading of the current month's expiring contract would be excluded. The CSCE listed daily free and open trading, and oversight by both the Commodity Futures Clearing Corporation of New York and the Commodity Futures Trading Commission as advantages in establishing a new BFP.

The data needed to construct a BFP based on the CSCE proposal is not publicly available; therefore, a detailed analysis of the proposal could not be completed. However, daily trading levels and settlement prices are available and were used to compute monthly weighted average prices for the delivery months of February, April, June, and August of 1996.

Based on the limited data available, the futures market tends to be erratic when compared to the current BFP. During the first few months of trading, the nearby futures contract price closely tracked the current BFP. In June, however, nearby futures rose significantly above the current BFP, and in August, the difference was even larger. Economists suggest that this divergence is a result of the futures market reflecting the spot value of Grade A milk--needed to fill deficit demand--rather than the value of milk used in manufactured products.[4]

Futures markets are not necessarily stable, nor are they intended to be. Prices fluctuate on a daily basis, reflecting expectations about supply and demand. A weighted monthly average would introduce more stability, but the commodity influence would still drive the BFP, and introduce significant variation into the price series.

The use of futures markets to derive the BFP could generate a price that is applied nationally. However, the futures-BFP, although conceptually global in terms of participation, would be heavily influenced by supply and demand conditions in the upper Midwest region, since this region is the defined delivery area in the contracts.

There is also the question of what milk is actually being priced by futures markets. Both the CSCE and CME proposed using the futures market to price Class III milk. However, the current Class III price is based on the price paid for Grade B milk, not Grade A as is specified in the futures contracts. This should not be a significant problem as long as the basis-- the difference between the futures price and the Class III price-- remains relatively stable. However, the limited data available demonstrated that the basis did not perform as expected. As shown in Figures 2 and 3 (next page), there is no discernible pattern in the basis difference compared with the current BFP. This observation is based on very few data points, however, and perhaps over a longer time period more stability and a predictable pattern would emerge.

Aside from the issues mentioned above, there is a significant lack of familiarity, particularly at the producer level, with futures markets. Thus, transparency is not a feature of a new futures-driven BFP; and since most people do not understand futures markets, it would be difficult to convince individuals that the futures-BFP is simple or predictable.

Finally, futures markets are not, and were not intended to be, cash price-setting mechanisms. They were established to transfer price risk. There is no reason to expect them to be suitable in serving the price setting function for which they were not intended. There is also a question about the long term viability of the milk futures contract. Although volumes increased last summer, trading volume continues to be light, especially compared with other commodities.

Figure 2
April 1996 Milk Futures Basis On The CME
(Basis = BFP-CME)

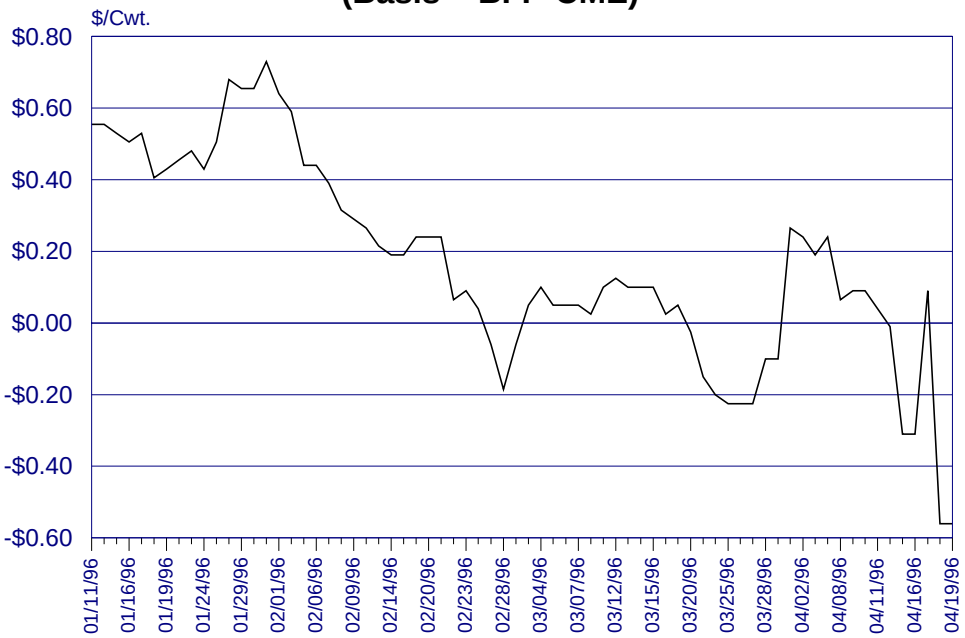
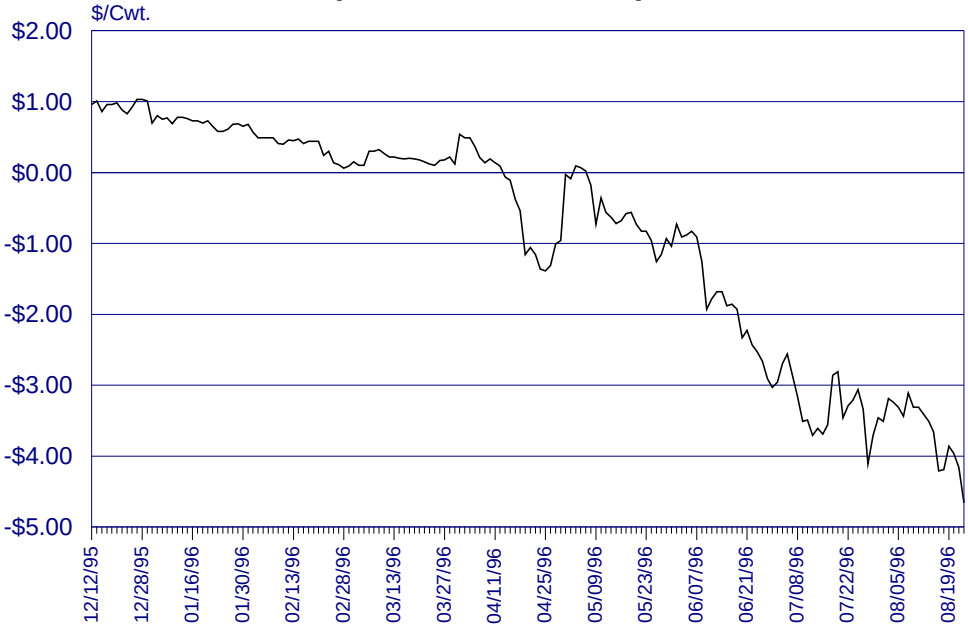


Figure 3
August 1996 Milk Futures Basis On The CSCE
(Basis = BFP-CSCE)



Cost of Production

A significant number of comments proposed cost of production to derive the BFP. Although a number of comments were not specific, many proposed that a BFP replacement incorporate a cost of producing milk plus a reasonable rate of return. Some comments suggested using USDA's Economic Research Service (ERS) cost of production estimates, with some suggesting the addition of $1 per cwt to the ERS estimate. At least one comment proposed a regional BFP using the ERS regional cost of production estimates. None of the proposals addressed the frequency of announcement of a BFP--whether annually based on the most recent ERS data, or adjusted quarterly or monthly by some factor such as changes in feed costs.

ERS publishes full economic cost estimates, including variable, fixed, and economic or ownership costs. Variable costs are those incurred only if production takes place, such as feed costs, hauling, or veterinary expenses. Fixed costs are incurred whether production takes place or not, such as property taxes or interest on mortgages for land and buildings. Economic or ownership costs include capital replacement costs, costs for unpaid (family) labor, and returns to management.

Cost of production would be more stable than the current BFP, and more stable than other options based heavily on commodity market prices. Stability is due to the fact that many of the input values do not change rapidly or as rapidly as commodity prices, and in fact, some cost factors may move in opposite directions, reducing the net effect of any one input factor. This is also one of the drawbacks to a cost of production based BFP--the cost of production may not respond quickly enough, or sufficiently reflect changes in supply conditions.

A BFP based on cost of production would be more complicated than many other options suggested--considerably more data would be needed to compile an accurate cost of production value. And, although a uniform price could be calculated if national averages are used, there is a wide range of cost differences by

region, which would introduce uniformity problems. ERS data for 1991 through 1995 show significant regional differences in cost of production for milk (Table 1).

Table 1
ERS Full Economic Cost Of Milk Production By Region
$ Per Hundredweight

Year/ Region	U.S	North East [1]	South East	Upper Midwest	Corn Belt	Southern Plains	Pacific
1991	14.14	15.48	15.11	13.99	16.41	13.70	11.44
1992	13.94	14.97	13.41	14.05	16.46	13.31	11.41
1993	15.78	16.81	17.57	17.39	17.34	15.03	12.08
1994	16.49	17.68	18.16	17.60	17.91	15.51	13.20
1995	15.97	17.77	18.23	16.64	17.35	14.83	12.74

[1] Similar production regions as defined by ERS.

The most serious drawback with using cost of production to replace the BFP is that cost of production represents only the supply side of the market, ignoring factors underlying demand or changes in demand for milk and milk products. Historical experience with using cost of production for other price-setting initiatives in the agricultural sector have proven disappointing. The consequences have been overvalued resources, such as land, which slows adjustment in the sector and introduces barriers to entry in the industry.

Beyond the desire that a BFP reflect both supply and demand, the 1937 Act requires milk prices to be established with both demand and supply taken into account. Thus, if cost of production were considered as a replacement for the BFP, new legislative authority would be needed.

Competitive Pay Pricing

A competitive pay price results from open market negotiation between dairy farmers (or their cooperatives) and milk processors. Competition requires sufficient numbers of buyers and sellers so that no one participant or group of participants can unduly influence the price, and the price can not be a Federal or State regulated price, such as the price for Grade A milk covered under Federal orders currently. The M-W price series was a competitive pay price; the current BFP is a combination of a competitive pay price and a product price formula to update the pay price.

Identifying a competitive pay price in today's dairy industry, where 70 percent of the milk is currently covered under a Federal milk marketing order, is a challenge. Nevertheless, suggestions were received to include Grade A milk used for manufacturing products along with Grade B milk to construct a BFP replacement. However, after accounting for state regulations, only about 2 percent of Grade A milk is unregulated. It is unlikely that even this small amount of milk is not affected by regulated prices. And, as noted before, only about 5 percent of total milk marketed in the U.S. is Grade B (unregulated), and only 42 percent of that milk is concentrated in Minnesota and Wisconsin. The remainder is scattered among 23 states in amounts too small and from too few processing plants to generate a competitive price. In areas where alternative markets exist, the price for unregulated milk likely will not be below the price paid for regulated milk, since producers would sell their milk to regulated handlers to receive the higher (regulated) price. Thus, unregulated handlers are compelled to meet the regulated price in order to attract sufficient supplies of milk. The circular result is that the regulated price ultimately becomes the "competitive price." This process does not lead to a representative competitive pay price for milk.

Others suggested that a survey of cooperative pay prices could substitute as the competitive pay price since cooperatives are not required to pay their members the Federal order minimum price. But questions about prices would arise in areas

where competition for milk is minimal, or where proprietary plants compete with cooperatives for milk supplies.

Aside from their availability, competitive pay prices introduce issues of timeliness. It takes time to survey plants for prices, collect the data, and develop a representative price. Usually, competitive pay prices, like the M-W and the current BFP, are not available until the end of the month after the month in which the milk has been marketed. Thus, they are not available for establishing manufacturing use milk prices in the current month. As with the current BFP, some type of adjustor would be necessary to establish current prices for manufacturing use milk.

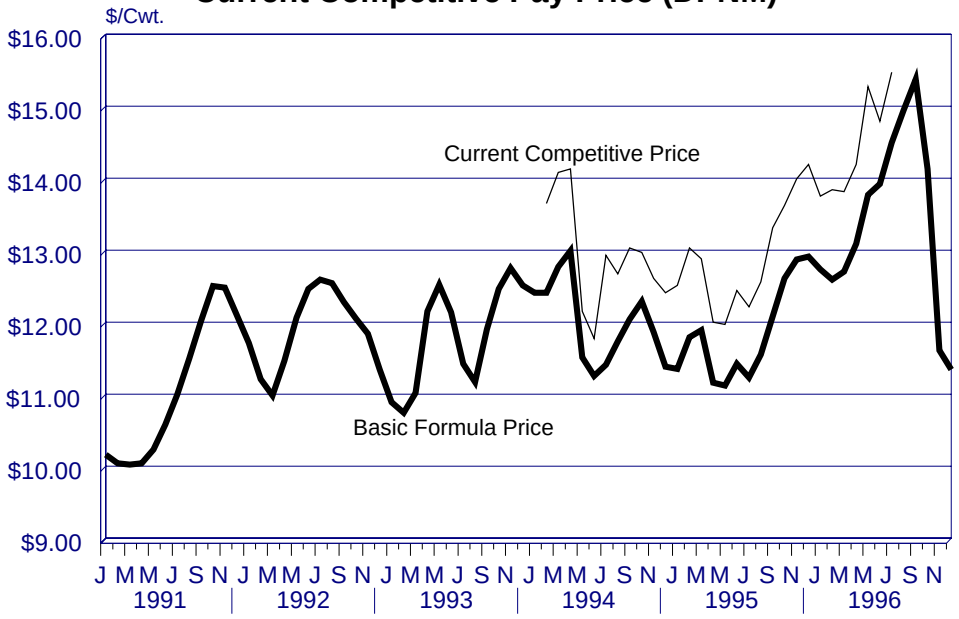
Despite the obvious problems associated with a competitive pay price, the option enjoys widespread support based on the comments received. Suggestions included adding more states to the current survey of Minnesota and Wisconsin plants, adding Grade A milk to the survey to compute an A/B competitive pay price, and removing performance premiums and Federal order payments from the Grade A price.

The Upper Midwest Coalition (coalition) proposed adding Grade A milk used for manufacturing in Minnesota and Wisconsin to the current survey of Grade B milk in those states. In addition, the coalition suggested adjusting the survey price by removing performance premiums and, in the case of Grade A milk, Federal order payments (the “pool draw”). Prices would be weighted by state to arrive at a Minnesota-Wisconsin competitive pay price. The coalition is also considering the addition of more states to the survey.

Dairy Producers of New Mexico (DPNM) submitted a proposal for a “current competitive price.” This price would be derived by adding an end-product price for the current month to the difference between the prior month’s A/B competitive price and the prior month’s end-product price. The end-product price is computed by multiplying the weekly Wisconsin assembly point block cheese price by a 10.1 yield factor and subtracting $1.21 for a make allowance. A weighted average monthly

end-product price would then be computed using the weekly prices and weighting the number of days in the month. (The cheese yield factor used in the price support program is 10.1; the make allowance is derived from the $1.37 make allowance for cheese under the price support program, less 16 cents for the value of the whey.) Changes in monthly values, rather than absolute levels of the make allowance, are more important according to the DPNM. The A/B price suggested by the DPNM is published in Dairy Market News and includes performance premiums; DPNM would add hauling subsidies to determine the final A/B price, which reflects both Grade A and B milk used for manufacturing in Minnesota and Wisconsin (Figure 4).

Figure 4
Comparison Of The Basic Formula Price With Current Competitive Pay Price (DPNM)



Most competitive pay price alternatives are not structurally different from the current BFP and will not yield a price series any more stable than the current BFP. Some improvement in stability might be possible with a more stable “updater” to adjust the competitive pay price. However, the updater may then result in a competitive price that fails to reflect the current value of milk used in manufacturing.

Competitive pay prices may have problems associated with uniformity, simplicity, and sound economics. With regard to simplicity, the current BFP uses a complex process to compute the updater while the coalition proposal requires a method to determine premiums and federal order payments to deduct them from the competitively-set price. Neither of these adjustment mechanisms are very simple or transparent. A competitive pay price may be uniformly applied, but since determining the competitive pay price often involves the use of prices in just one region, the derived price may not be fully applicable across regions.

The concept of a competitive pay price has appeal from the standpoint of sound economics. But the proposals outlined here, as well as the current BFP construction, raise concerns about the degree of competition reflected in a price based on a declining volume of Grade B milk produced and purchased, or the introduction of Grade A milk that, even if unregulated, is significantly influenced by minimum order prices, and therefore, suspect as a “competitive” price.

Furthermore, the addition of such a Grade A price would likely raise the level of the BFP significantly above the current BFP levels. The Minnesota-Wisconsin Grade A/B price currently collected by NASS has averaged about $0.75 per cwt above the BFP over the past five years. While the proposal to exclude performance premiums and the need for adjustment for the current month may help to minimize problems associated with the regulated price serving as the competitive price, serious issues are raised by this proposal. More data would be necessary, increasing the burden of reporting premiums paid to producers, the basis for such premiums, hauling subsidies, and hauling cost data.

The changes in market conditions and limited information would reduce the predictability of the new BFP, nor would transparency be assured, particularly if the price is based on a survey. The current BFP suffers from these same shortcomings, particularly as the price support program has become a more diminutive presence in

the market--movement in the BFP base month M-W price has become much more difficult to anticipate.

In spite of the problems associated with a competitive pay price, widespread support for a competitive pay price continues, as indicated by the comments and input received by the Department. Thus, the BFP Committee is continuing to work with the USC to further evaluate competitive pay price options to replace the current BFP.

Product Price and Component Formulas

Product price formulas derive a milk price from the price of a particular commodity or group of commodities, in contrast to other BFP replacement alternatives that directly establish a price for milk. To compute a milk price using a product price formula requires three sources of data: 1) commodity prices, 2) make allowances, and 3) product yields.

Product price formulas can take many different forms. They can be as complicated or as simple as one chooses, depending on the products and the amount of detail that the formula is designed to reflect. The phrase “product price formula” can cover a wide array of alternative formulas. However, most alternatives take the general form:

$$BFP = \sum_{1}^{n} ((CP_i \times PY_i) - (MA_i))$$

where: BFP=Basic Formula Price,
$\sum$=Mathamatical notation for sum of all "i...n" commodities
CP=Price of commodity “i” from which the basic formula price is being derived,
PY=Product yield of commodity “i” from 100 pounds of milk, and
MA=Make allowance, or cost of converting 100 pounds of milk into the commodity “i”.

Other product price formulas may be derived from this general equation. For example, if the formula reflects the values of two commodities, then n=2, and values for both commodities' product yields, prices, and make allowances are included. Other formulas also contain factors that weight the contribution of the commodities to a composite price for finished products. In the general formula, the computed value for each commodity would then be multiplied by a weighting factor.

Multiple component pricing (MCP) is included with product price formulas because component values generally are based on the value of the components in finished products and computed using product price formulas (Table 2, next page).

Many opinions were expressed about the use of product price formulas to replace the BFP at the forum in Madison, Wisconsin, as well as in written comments submitted to the Department. Very few of the comments provided specifics, however. Most comments in favor of product price formulas focused on the formula as a best reflection of the value of milk used in manufacturing, its simplicity to use and derive, and the ease of adaptability to multiple component pricing.

Opposition to product price formulas expressed concerns that appropriate make allowances and product yields would be difficult and costly, if not impossible to determine. The use of the commodity price series currently available are not, according to some, an accurate reflection of the supply and demand for the commodities they represent. Milk producer pay prices would be lower than those based on a competitive pay price series, opponents argue, since product price formulas reflect the supply and demand for the commodities in the formulas, not for the milk used in manufactured dairy products.

National All-Jersey (NAJ) submitted a proposal to replace the BFP with a manufacturing reference price. The manufacturing reference price deviates from the current BFP because the manufacturing reference price is a combination of a cheese formula (Class III) and a butter/powder formula (Class IV). The reference

* signifies multiplication
/ signifies division

Table 2
General Product Price Formulas

MCP Cheese Product Yield Pricing (BFP Committee)

Protein Price = [(Cheese Price-Make Allowance)*1.32]
Butterfat Price = [(Cheese Price-Make Allowance)*1.582]
Lactose Price = Lactose Price
Milk Value = (Protein Price*3.15)+(Butterfat Price*3.5)+(Lactose Price*4.6)

MCP Butter/Powder Product Yield Pricing (BFP Committee)

Nonfat Solids Price = [(Nonfat Dry Milk Price-Make Allowance)/.96]
Butterfat Price = [(Butter Price-Make Allowance)/.80]
Milk Value = (Nonfat Solids Price*8.5)+(Butterfat Price*3.5)

MCP Manufactured Product Yield Pricing (BFP Committee)

MCPYP = [(Cheese Product Yield Value*National Cheese Percent)+(Butter/Powder Product Yield Milk Value*National Butter/Powder Percent)]/(National Cheese Percent+National Butter/Powder Percent)

National All-Jersey Manufacturing Reference Price

NAJ Class 4 Price = [(3.5*1.2)*(CME AA Price-Make Allowance)]+[8.59*(Western NFDM Price-Make Allowance)]
NAJ Class 3 Price = [{((.90*3.5)+((.78*3.15)-.1))*1.09}/(1-.38)]*(NCE Block Price-Make Allowance)
Manufacturing Reference Price = [(Class 4 Price *National Class 4 Percent)+(Class 3 Price*National Class 3 Percent)]/(National Class 4 Percent+National Class 3 Percent)

Northwest Independent Milk Producers

Butterfat Price = (CME A Price*1.1)
Protein Price = [(NCE Block Price*1.32)+(Whey Powder Price)]
Other Solids Price = [{(9.8*NCE Block Price*1.0377)+.27*CME A Butter Price}-(3.5*Butterfat Price)-(3.2*Protein Price)-(Make Allowance)]/5.500
Milk Value = (3.5*Butterfat Price)+(3.2*Protein Price)+(5.5*Other Solids Price)

"Modified" USC Benchmark Component Price (BFP Committee)

USC Protein Price = (Cheese Price-Make Allowance)*1.32
USC Butterfat Price = (Butter Price-Make Allowance)*1.1
USC Other Solids Price = [((Powder Price-Make Allowance)*8.7)-(USC Protein Price*3.2)]/5.5
USC Benchmark Component Price = (USC Protein Price*3.15)+(USC Butterfat Price*3.5)+(USC Other Solids Price *5.4)

price also could be used for a manufacturing class price that would include both cheese and butter/powder. The cheese price formula utilizes the Van Slyke formula to determine the appropriate product yield, while the butter/powder formula employs standard yield factors used under the price support program. The cheese formula price and the butter/powder price are then combined using the respective shares that each represent of the U.S. milk supply used in each class (Table 3, next page). The proposal combines the value of milk used in butter/powder with the value of milk used in cheese, using a 10 percent share for butter/powder and a 40 percent share for cheese (total U.S. milk production used in those products). The NAJ proposal stated that product price formulas are the most equitable way to price milk for both handlers and producers, because the value of the milk is based on its ability to produce end products. NAJ added that end product pricing provides a means of reflecting dairy product yields in the value of milk used in each product class.

Several parties suggested using the California 4a and 4b formulas to replace the current BFP. Therefore, values also were computed based on the 4a and 4b formulas and included in this analysis (Table 3).

Computing a BFP by first determining prices for the components in milk also was proposed. Northwest Independent Milk Producers Association (NIMPA) proposed computing a Class III milk value (cheese), by combining the value of butterfat, protein, and other solids (Table 2). Unlike the current MCP plans that compute the other-solids-price as a residual of the BFP, the NIMPA proposal would calculate a value for milk based on its use in cheese, and then deduct the value of the butterfat and protein, leaving the remaining value to apply to other solids. The prices for each of the components then would be multiplied by fixed values and summed to derive a Class III milk value.

An alternative proposal using component prices to develop a BFP was developed by the Committee (Table 2). This proposal would compute a protein price, a

* signifies multiplication
/ signifies division

Table 3
Proposed Product Price Formulas

MCP Cheese Product Yield Pricing

Protein Price = [(NCE Block Price-.137)*1.32]
Butterfat Price = [(NCE Block Price-.137)*1.582]
Lactose Price = Lactose Price
Milk Value = (Protein Price*3.15)+(Butterfat Price*3.5)+(Lactose Price*4.6)

MCP Butter/Powder Product Yield Pricing

Nonfat Solids Price = [(Western States Nonfat Dry Milk Price-.125)/.96]
Butterfat Price = [(CME A Butter Price-.049)/.80]
Milk Value = (Nonfat Solids Price*8.5)+(Butterfat Price*3.5)

MCP Manufactured Product Yield Pricing

MCPYP = [(Cheese Product Yield Value*.4)+(Butter/Powder Product Yield Value*.1)]/(.4+.1)

National All-Jersey Manufacturing Reference Price

NAJ Class 4 Price = [(3.5*1.2)*(CME AA Price-.125)]+[8.59*(Western NFDM Price-.125)]
NAJ Class 3 Price = [{((.90*3.5)+((.78*3.15)-.1))*1.09}/(1-.38)]*(NCE Block Price-.137)
Manufacturing Reference Price = [(Class 4 Price *.1)+(Class 3 Price*.4)]/(.1+.4)

Northwest Independent Milk Producers

Butterfat Price = (CME A Price*1.1)
Protein Price = [(NCE Block Price*1.32)+(Western States Whey Powder Price)]
Other Solids Price = [{(9.8*NCE Block Price*1.0377)+.27*CME A Butter Price}-(3.5*Butterfat Price)-(3.2*Protein Price)-(1.55)]/5.500
Milk Value = (3.5*Butterfat Price)+(3.2*Protein Price)+(5.5*Other Solids Price)

California 4a And 4b

Class 4a Fat Price = [(CME AA Price-.045)-.097]*1.2
Class 4a SNF Price = (California Powder Price-.14)*.99
Class 4a Milk Value = (4a Fat Price*3.5)+(4a SNF Price *8.7)
Cheese Value CWT = [{(NCE Block Price+.01)-.18}*9.8]+[(CME B Price-.097)*.27]
Class 4b Fat = Class 4a Fat
Class 4b SNF = [Cheese Value-(3.6*Class 4b Fat)]/8.7
Class 4b Milk Value = (3.5*Class 4b Fat)+(8.7*Class 4b SNF)

----- Table 3 Continued Next Page -----

----- Table 3 Continued From Previous Page -----

"Modified" USC Benchmark Component Price

USC Protein Price = (NCE Block Price-.137)*1.32
USC Butterfat Price = (CME AA Butter Price-.049)*1.1
USC Other Solids Price = [{(Western States Powder Price-.125)*8.7}-(USC Protein Price*3.2)]/5.5
USC Benchmark Component Price = (USC Protein Price*3.15)+(USC Butterfat Price*3.5)+(USC Other Solids Price *5.4)

butterfat price, and a lactose price for milk used in cheese (Class III), and compute a nonfat solids price and a butterfat price for milk used in butter/powder (Class IV). This alternative uses product markets to compute prices for protein, butterfat, and lactose, and for nonfat solids and butterfat. Make allowances are needed to compute the component prices, since those prices are computed directly from product markets. The combination of protein, butterfat, and lactose results in a milk value based on the cheese market, since the protein price and butterfat price are derived from the cheese price. Likewise, since the nonfat solids price and butterfat price are derived from prices for nonfat dry milk and butter, the milk value derived reflects the value of milk used in butter/powder.

The USC also updated product price formulas originally contained in an earlier study.[5] The USC developed and the BFP Committee modified a component price-based BFP described in Table 2 and explained below.

Prices derived from product price formulas that use commodity prices as the basis for the computed price are, as stated earlier, subject to the fluctuations in the underlying commodity prices, even more than even the current BFP. Looking at several variations on product price formulas, none were consistently stable over the period analyzed, although the price series based on nonfat dry milk experienced considerable stability in some years. Closer scrutiny reveals, however, that the

stability of the nonfat dry milk and butter prices occurred when prices hovered close to support prices. When nonfat dry milk and butter prices moved above the support price, the formula prices based on them were at least as unstable as prices based on the cheese market. (Appendix 5 provides graphical illustrations of product price formulas compared with the current BFP.)

Product price formulas are relatively simple to compute and understand, and may be applied uniformly, or on a regional basis, accommodating differences in yields or make allowances. Product prices established in a relatively free and open interaction between supply and demand directly translate the value of the finished products to the value of the milk and its components. Therefore, they have a sound economic underpinning. The use of different values for butterfat used in butter and in cheese would more accurately reflect the value of producer milk used in those products. Arguably, product price formulas reflect the supply and demand for the manufactured product, rather than for raw milk used to produce the product, and therefore may be criticized for not adequately representing market conditions for milk used in manufacturing.

Product price formulas can require increased data collection, particularly if industry insists on audited make allowances and actual transactions prices to be used in formulas. Multiple butterfat prices may also require increased data and verification.

The predictability of prices computed from product price formulas should be reasonably good, or at least no worse than predictability of the underlying commodity prices. Predictability should even improve in the short run, since all information needed to compute the prices is reported on an ongoing basis unless survey information is used. This contrasts with the present BFP computation in which a major part of the formula, the base month M-W price, is not available until the actual BFP is announced.

Product price formulas are transparent, since the information to compute the price is available, and the effect of a change in the commodity prices or one of the other factors may be observed and quantified.

The USC developed a price series--the USC Benchmark Component Price--derived from pricing three components: butterfat, protein, and other solids. Other solids are the nonfat solids other than protein--primarily, lactose, minerals, or ash. The total nonfat solids value is determined by multiplying the Central States nonfat dry milk price by 8.7. The protein price equals the cheese price multiplied by 1.32 (the same computation currently used in several Federal orders that use component pricing plans); the total protein value is the protein price multiplied by 3.2. The other solids price is equal to the nonfat solids value minus the total protein value, and divided by 5.5. The butterfat price is the CME Grade AA butter price multiplied by 1.1. To calculate the price of 100 pounds of milk, add the calculated protein price multiplied by 3.15, the butterfat price multiplied by 3.5, and the other solids price multiplied by 5.4. A value for a hauling subsidy was also added to the USC Benchmark Component Price.

The USC concluded that this option performed better than any other option they evaluated with respect to their second threshold criteria. In fact, the USC found this option performed better than the current BFP with respect to those criteria.

The USC Benchmark Component pricing plan is derived from the nonfat dry milk market. The protein price is computed from a cheese price; the other solids price is derived by subtracting the protein value from the total solids value as determined from a nonfat dry milk price. The total value of nonfat solids in the USC Benchmark Component price, therefore, is derived solely from the nonfat dry milk price as opposed to the value of nonfat solids used in cheese.

Originally, the USC Benchmark Component pricing plan did not include make allowances, thus the price series is overstated. The make allowances used in the

MCP plan were incorporated into the Benchmark Price to avoid overstating the prices, and to make the price series comparable with other alternatives analyzed. Hauling subsidies, originally included in the USC Benchmark series, were omitted. These changes result in the BFP Committee's "Modified USC Benchmark Component Price."

Table 3 describes the proposed product price formulas submitted by interested parties and the Modified USC price series developed by the BFP Committee. Table 4 provides correlation coefficients among the various formulas, and Table 5 (next page) provides selected statistics that illustrate the performance of the product formulas over the period 1991-1996.

Table 4
Correlations Between Selected Product Price Formulas

Pearson Correlation	Basic Formula Price	Cheese Milk Value	But/Pd Milk Value	MCP Mfg. Price	NAJ Mfg. Ref. Price	NIMPA C III B Price	Calif. 4A Price	Calif. 4B Price	Mod. BM Component Price
Basic Formula Price	1.000	.931	.816	.936	.967	.971	.776	.970	.825
Cheese Milk Value	.931	1.000	.812	.991	.958	.962	.783	.950	.819
Butter/Powder Value	.816	.812	1.000	.883	.892	.840	.983	.855	.999
MCP Manufacturing Price	.936	.991	.883	1.000	.976	.967	.856	.960	.889
NAJ Manufacturing Reference	.967	.958	.892	.976	1.000	.994	.863	.994	.898
NIMPA Class III B Price	.971	.962	.840	.967	.994	1.000	.809	.995	.846
California 4A Price	.776	.783	.983	.856	.863	.809	1.000	.828	.982
California 4B Price	.970	.950	.855	.960	.994	.995	.828	1.000	.862
Modified USC Benchmark Component Price	.825	.819	.999	.889	.898	.846	.982	.862	1.000

All of the proposed price series had higher standard deviations than the current BFP, a result that is not unexpected since commodity markets fluctuate more than the BFP. The price series proposed by National All-Jersey and NIMPA had among the lowest standard deviations. Still both were higher than the standard deviation of the current BFP.

Table 5
Various Statistics For Selected Product Price Formulas

Year		Basic Formula Price	Cheese Milk Value	But/Pdw Milk Value	MCP Mfg. Price	NAJ Mfg. Ref. Price	NIMPA C III B Price	Calif. 4A Price	Calif. 4B Price	Modified USC BcMk Component Price
1991	Mean ($)	11.0550	11.1954	11.2497	11.2062	10.3936	10.9845	10.1367	10.2992	10.5064
	Std. Dev. ($)	1.0083	1.2495	1.0699	1.1796	1.0217	1.1201	0.6833	0.9344	1.0190
	Minimum ($)	10.02	9.76	10.39	9.89	9.30	9.77	9.67	9.29	9.69
	Maximum ($)	12.50	12.76	13.29	12.87	11.90	12.47	11.66	11.55	12.44
1992	Mean ($)	11.8767	12.6439	11.4958	12.4143	11.0297	11.7094	10.4375	10.9292	10.8079
	Std. Dev. ($)	0.5439	0.8879	0.5359	0.8018	0.6949	0.7910	0.4216	0.6565	0.5267
	Minimum ($)	10.98	11.28	10.64	11.19	9.99	10.48	9.83	10.00	9.97
	Maximum (4)	12.59	13.68	12.25	13.32	11.86	12.68	11.02	11.79	11.55
1993	Mean ($)	11.8058	12.1557	11.5620	12.0370	11.0701	11.7229	10.4745	10.9358	10.8988
	Std. Dev. ($)	0.7205	0.6964	0.1355	0.5791	0.6375	0.8125	0.1790	0.6866	0.1268
	Minimum ($)	10.74	11.25	11.36	11.30	10.09	10.45	10.27	9.88	10.71
	Maximum($)	12.75	13.36	11.80	13.05	11.94	12.81	10.77	11.87	11.13
1994	Mean ($)	12.0042	11.7253	11.1543	11.6111	11.0016	11.7182	10.0800	10.9933	10.5287
	Std. Dev. ($)	0.5738	0.5663	0.1777	0.4803	0.4836	0.6010	0.1000	0.5002	0.1625
	Minimum ($)	11.25	10.80	10.91	10.82	10.21	10.74	9.92	10.16	10.30
	Maximum ($)	12.99	12.73	11.37	12.46	11.86	12.79	10.24	11.89	10.75
1995	Mean ($)	11.8317	12.0650	11.6080	11.9736	11.2235	11.9178	10.5308	11.1975	10.9275
	Std. Dev. ($)	0.6546	0.8424	0.7193	0.8048	0.7654	0.8685	0.6311	0.7722	0.6461
	Minimum ($)	11.12	11.14	10.76	11.11	10.41	10.94	9.90	10.25	10.17
	Maximum ($)	12.91	13.28	13.20	13.26	12.45	13.19	11.88	12.31	12.36
1996	Mean ($)	13.3900	13.7936	13.9371	13.8223	12.9270	13.6315	12.7475	12.8009	13.0785
	Std. Dev. ($)	1.2620	1.3135	2.2223	1.4483	1.4190	1.4513	2.1137	1.3584	2.0148
	Minimum ($)	11.34	11.69	11.47	11.82	10.84	11.23	10.35	10.67	10.83
	Maximum ($)	15.37	16.04	16.72	16.18	15.23	16.07	15.48	15.13	15.60
Total	Mean ($)	11.9939	12.2632	11.8345	12.1774	11.2743	11.9474	10.7345	11.1926	11.1247
	Std. Dev. ($)	1.0673	1.2396	1.4138	1.2325	1.1668	1.2474	1.3082	1.1374	1.3062
	Minimum ($)	10.02	9.76	10.39	9.89	9.30	9.77	9.67	9.29	9.69
	Maximum ($)	15.37	16.04	16.72	16.18	15.23	16.07	15.48	15.13	15.60

The six-year average of the alternatives ranged from $0.27 over the average BFP to $1.26 under the average BFP over the period. The price series proposed by NIMPA came closest to the average BFP in levels--averaging just $0.05 below the BFP.

The alternatives are affected by the data series used to generate the final prices. A major concern with the use of product price formulas is the selection of appropriate data. Other concerns center around the appropriate yield and make allowances to

be used, and there are objections to using dairy product exchange prices in the formulas.

The BFP Committee used “standard” make allowances and yields in the formulas to compute milk prices. The appropriateness of these make allowances and yields is a subject for debate, but obvious problems arise when comparing them with California prices based on the yields and make allowances used in the California state order. California uses the NCE block cheddar price in the Class 4b price, and the CME Grade AA butter price for calculating a butterfat price.

The best method of determining make allowances and yields would be to audit the plants manufacturing products included in the particular price series. Audits would require cooperation on the part of the dairy industry, and would require substantially more regulatory involvement. An alternative is to use an economic engineering approach, which constructs a representative plant as a model, and uses costs developed for the representative plant to find the optimum (least cost) production level. This approach requires no surveys, but does not use an actual plant, and may be criticized for being “contrived.” A third alternative contains “standard” values that are used in the price support program.

Each approach has advantages and disadvantages. The audit approach ranks high on accuracy, but obtaining the data would be expensive and timeliness could be a problem. The economic engineering approach would be inexpensive, but as mentioned above, potentially criticized for being unrealistic and too theoretical. Using current “standard” values is the easiest and least expensive, and industry is familiar with the values. But those standard values are fixed without regard for changing costs or technology.

Accurate and representative make allowances are made more difficult because of differences in existing plant sizes and operations. Should profit and returns be included? The BFP Committee believes the economic engineering approach

deserves further consideration, even if modest costs are involved; representative allowances and yields could be developed taking into account structural differences in the operations of plants.

Price data used in the product price formulas are readily available--another advantage. The BFP Committee is continuing to investigate alternatives to the various price series used, including an alternative to the National Cheese Exchange, which will cease trading after April 25, 1997. One advantage of using exchange prices is that a historical record is available that can be used for analyzing the performance of BFP alternatives against actual prices. Exchange prices are readily available and observable, helping to make the replacement BFP more current.

Using AMS' Dairy Market News (DMN) price series could pose problems in setting milk prices. With the exception of Class III-A, DMN prices are currently being used to measure month-to-month changes in milk values. While not intended to be used this way, DMN prices may still be representative for this use, as long as market participants comprehend what the DMN prices are, and are not. DMN conducts a survey of the market that does not reach all market participants. DMN reports a price range for a product, but generally volume information is not collected. Monthly averages are based on the midpoint of the reported range; no weighting by volume is used. DMN covers the "spot" or cash market for a product, or about 10 percent of the total market for a product. While prices in the contract market may be based on the DMN price series, the level of price may be significantly different, depending on market conditions. In addition, DMN price series are collected via telephone interviews with market participants who have volunteered to participate. While DMN goes to great lengths to verify reported transactions, market participants in a position to benefit from lower milk values can possibly affect product price levels used to compute that milk value, given current price range reporting. DMN remains vigilant of these types of trade, but cannot always compensate for them when they

represent legitimate market transactions. Thus, DMN price series should be carefully considered before being used to construct a new BFP.

Because of the performance of product price formulas, the BFP Committee has identified three of these as options for further debate and discussion to replace the current BFP. Those options are discussed below, in the section entitled “Four Options to Replace the BFP.”

California Pricing

Analysis of the California 4a and 4b prices indicates that these prices are significantly below other prices considered as replacements for the BFP (Table 5 and Appendix 5-6). The California prices are designed to reflect the value of milk used in butter/powder and cheese, and incorporate manufacturing allowances that are greater than those used in the alternative prices for BFP replacement. Even the California cost-based manufacturing allowances used in the USC product price formulas resulted in lesser allowances than under the California order.

It is important for the price levels of milk used in manufactured dairy products under the Federal order system, and under California milk pricing regulation, to become more closely aligned without significantly reducing returns to producers. It may become difficult to maintain Federal order price levels that exceed those established under the California system, since it is the largest milk-producing state in the nation and has a large dairy manufacturing sector. Manufacturing prices established under the Federal order system cannot be imposed upon pooled handlers without causing them difficulties in competing with California handlers if these differences are not reconciled.

It is unknown whether the California dairy industry will become part of the Federal milk order system at this point in the reform process. The inclusion of California would mitigate the problem of differing prices. Under one system, these prices

would be aligned so that competitive problems would no longer prevail. If California does not become part of the Federal milk order system, it is vital that the two systems move closer together to benefit the national industry. It is also important that Federal prices are not reduced to the level of California prices.

An alternative suggested in several comments is to develop Federal milk order manufacturing prices for the western region that allow Western Federal milk order handlers to compete with California handlers, and adjust the prices upward to reflect transportation costs to the Midwest.

Informal Rulemaking

Several parties suggested using informal rulemaking to determine or change the BFP or other class prices in response to unexpected changing economic conditions. Dairy industry participants could request a change in the BFP or other class prices through the appropriate Market Administrator or the Dairy Division without the requirement of a formal hearing, with the idea that a change could be effectuated in a relatively short time period under the informal rulemaking procedure.

The Dairy Division may be able to incorporate informal rulemaking as part of the proposed pricing provisions. A major disadvantage to informal rulemaking, however, is the potential for numerous requests for changes by everyone who is dissatisfied with current prices. A pricing provision that works very well on a long term basis could be dismantled as a result of a short term crisis. As a result, disorderly marketing conditions could occur as prices are changed to reflect local, temporary conditions.

Pooling Differentials Only

The International Dairy Foods Association (IDFA), as well as others, submitted a proposal to distribute to producers only the added value of Class I and possibly Class II price differentials. Pooling differentials would eliminate the need for a BFP, since only the fixed Class I and Class II differentials would be included in the pool. No need would exist for a manufacturing class price, or for a Class I and Class II price mover.

New legislative authority would be needed for this proposal, since the 1937 Act requires the Secretary to establish minimum prices for milk. However, one way to assure that producers receive at least the differential value of the milk would be for market administrators to pay producers the differential value. Handlers would remit pool obligations to market administrators immediately after computation of the differential value, so producers might be paid in a timely manner. The payment of a differential value by market administrators would likely increase administrative fees. Under this option, advance pricing for Class I and Class II products would no longer be necessary or feasible. This option is receiving further evaluation from the USC for its effects on national and regional markets, and on producers, handlers, and consumers.

Four Options To Replace The BFP

The four options identified by the BFP Committee for further discussion and feedback from interested parties include: two multiple component pricing plans, a product price formula, and a competitive pay price.

Option 1--Four Class, Multiple Component Pricing

Option 1 uses a four class pricing plan and multiple component pricing to compute prices for nonfat solids and butterfat used in butter/powder (Class IV), and a second multiple component pricing plan to compute prices for protein, butterfat, and lactose used in the manufacture of cheese (Class III). This alternative allows various options for pricing Class I: set independently of the manufacturing prices, add a differential to a weighted moving average of the manufactured prices, or use the higher of the Class III or Class IV price as a price mover.

The basis for this option comes from the different market demand for selected finished dairy products. Because of the difference in demand for butter/powder and cheese, the prices that manufacturers can obtain from the market also differ. This fact was reflected in the adoption of Class III-A pricing for milk used in nonfat dry milk (NFDM). Regulated pricing can distort the market when pooled handlers must pay the same price for milk used in NFDM as for milk used in cheese. The market will generally not return a value for the NFDM that covers handlers' costs of buying the milk and drying it. These two surplus uses of milk should be priced differently, with the price used for each class of milk established independently. This approach to pricing milk used in manufactured products allows the market to clear at the lower price. The price of the higher-valued use would be able to remain at the higher level justified by market conditions. This enhances returns to dairy farmers beyond the level they would receive if all milk used in manufactured products is priced at the lower market-clearing level.

Supporting research (Emmons, 1990) shows that a three-class pricing system results in no single pricing formula that is satisfactory for all three product classes. In fact, Emmons' research indicates that instead, separate formulas are needed for each product class.[6] The proposed option described here would lead to a multiple pricing plan similar to that described by Emmons. Use of independently-determined prices based on market values of finished manufactured dairy products would result

in the blend price in each order reflecting the use of milk in that order. In this way, prices signal to producers which components will return the most revenues.

Under option 1, the formulas for determining the component prices for milk used in butter/powder (Class IV) are:

Nonfat solids price	=	((Western States nonfat dry milk price - 0.125)/0.96)
Butterfat price	=	((CME AA butter price - 0.049)/0.80)
Milk value	=	(Nonfat solids price × 8.5) + (butterfat price × 3.5).

To determine the Class III price for cheese, the formulas used are:

Protein price	=	((NCE block price - 0.137) × 1.32)
Butterfat price	=	((NCE block price - 0.137) × 1.582)
Lactose price	=	Lactose price
Milk value	=	(Protein price × 3.15) + (butterfat price × 3.5) + (lactose price ×4.6).

Note that with trading ceasing on the NCE at the end of April, some other suitable and equivalent cheese price will need to be substituted for the NCE block price in the above formulas.

In the Class IV formulas, $0.125 and $0.049 are the make allowances for nonfat dry milk production and butter production, while 0.96 and 0.80 are factors reflecting the nonfat solids and butterfat content of NFDM and butter. In the Class III formulas, $0.137 is the support price make allowance, while 1.32 and 1.582 are yield factors derived from the Van Slyke[7] cheese yield formula. The 1.32 factor times the cheese price is the same procedure used in many of the current Federal order component pricing protein price formulas. Both the 1.32 and 1.582 are determined by calculating the change in cheese yield if an additional tenth of a pound of protein or butterfat is added to the milk, holding everything else constant. Component prices, standardized milk values, and the announced BFP are shown in Table 6.

Table 6
Component Prices And Standardized Milk Values

	BF Price Cheese $/lb	Protein Price Cheese $/lb	Lactose $/lb	Cheese Milk Value $/cwt	BF Price Bttr/Pdr $/lb	NFS Price Bttr/Pdr $/lb	Bttr/Pdr Milk Value $/cwt	Basic Formula Price $/cwt
Jan	1.5032	1.2543	0.1196	9.7623	1.1544	0.7474	10.3932	10.1600
Feb	1.5037	1.2547	0.1200	9.7671	1.1544	0.7474	10.3932	10.0400
Mar	1.5037	1.2547	0.1254	9.7919	1.1544	0.7474	10.3932	10.0200
Apr	1.5037	1.2547	0.1476	9.8941	1.1544	0.7474	10.3932	10.0400
May	1.5535	1.2962	0.1623	10.2671	1.1548	0.7494	10.4113	10.2300
Jun	1.6481	1.3752	0.1738	10.8997	1.2060	0.7728	10.7899	10.5800
Jul	1.7541	1.4636	0.2036	11.6864	1.2294	0.8029	11.1276	10.9900
Aug	1.8562	1.5488	0.2100	12.3411	1.2294	0.8011	11.1126	11.5000
Sep	1.9085	1.5924	0.2103	12.6634	1.2580	0.8073	11.2650	12.0200
Oct	1.9199	1.6020	0.2172	12.7650	1.3075	1.0246	13.2852	12.5000
Nov	1.8606	1.5525	0.2223	12.4249	1.2850	1.0096	13.0790	12.4800
Dec	1.7872	1.4912	0.2454	12.0813	1.2022	0.9583	12.3537	12.1000
91 Avg	**1.6919**	**1.4117**	**0.1798**	**11.1954**	**1.2075**	**0.8263**	**11.2497**	**11.0550**
Jan	1.7217	1.4366	0.2765	11.8230	1.0879	0.8083	10.6784	11.7100
Feb	1.6340	1.3634	0.2867	11.3328	1.0169	0.8328	10.6380	11.2100
Mar	1.6195	1.3513	0.2945	11.2795	1.0169	0.8899	11.1232	10.9800
Apr	1.7989	1.5010	0.3560	12.6618	1.0169	0.9339	11.4968	11.4600
May	1.9028	1.5877	0.3648	13.3392	0.9826	1.0131	12.0507	12.0600
Jun	1.9345	1.6141	0.3664	13.5405	0.9544	1.0484	12.2520	12.4600
Jul	1.9516	1.6284	0.3514	13.5762	0.9544	1.0428	12.2042	12.5900
Aug	1.9656	1.6401	0.3550	13.6790	0.9544	1.0049	11.8819	12.5400
Sep	1.9076	1.5917	0.3543	13.3200	0.9936	0.9128	11.2366	12.2800
Oct	1.8381	1.5337	0.3500	12.8746	1.0012	0.9417	11.5085	12.0500
Nov	1.7782	1.4837	0.3397	12.4598	1.0012	0.9427	11.5174	11.8400
Dec	1.6882	1.4086	0.3250	11.8405	0.9462	0.9471	11.3621	11.3400
92 Avg	**1.8117**	**1.5117**	**0.3350**	**12.6439**	**0.9939**	**0.9432**	**11.4958**	**11.8767**
Jan	1.6434	1.3712	0.3026	11.4631	0.8794	0.9740	11.3565	10.8900
Feb	1.6184	1.3504	0.2889	11.2469	0.8794	0.9919	11.5087	10.7400
Mar	1.6905	1.4106	0.2843	11.6679	0.8951	0.9907	11.5541	11.0200
Apr	1.9484	1.6257	0.2641	13.1552	0.9169	0.9984	11.6958	12.1500
May	1.9862	1.6573	0.2575	13.3566	0.9169	1.0110	11.8029	12.5200
Jun	1.8641	1.5554	0.2425	12.5391	0.9419	0.9905	11.7160	12.1400
Jul	1.7483	1.4587	0.2026	11.6459	0.9051	0.9781	11.4820	11.4200
Aug	1.7169	1.4326	0.1773	11.3376	0.9137	0.9708	11.4502	11.1700
Sep	1.9024	1.5873	0.1750	12.4632	0.9137	0.9726	11.4653	11.9000
Oct	1.9111	1.5946	0.1608	12.4512	0.9137	0.9872	11.5892	12.4600
Nov	1.9126	1.5959	0.1590	12.4527	0.9137	0.9979	11.6804	12.7500
Dec	1.8644	1.5556	0.1443	12.0893	0.8436	0.9989	11.4429	12.5100
93 Avg	**1.8172**	**1.5163**	**0.2216**	**12.1557**	**0.9028**	**0.9885**	**11.5620**	**11.8058**

----- Table 6 Continued On Next Page -----

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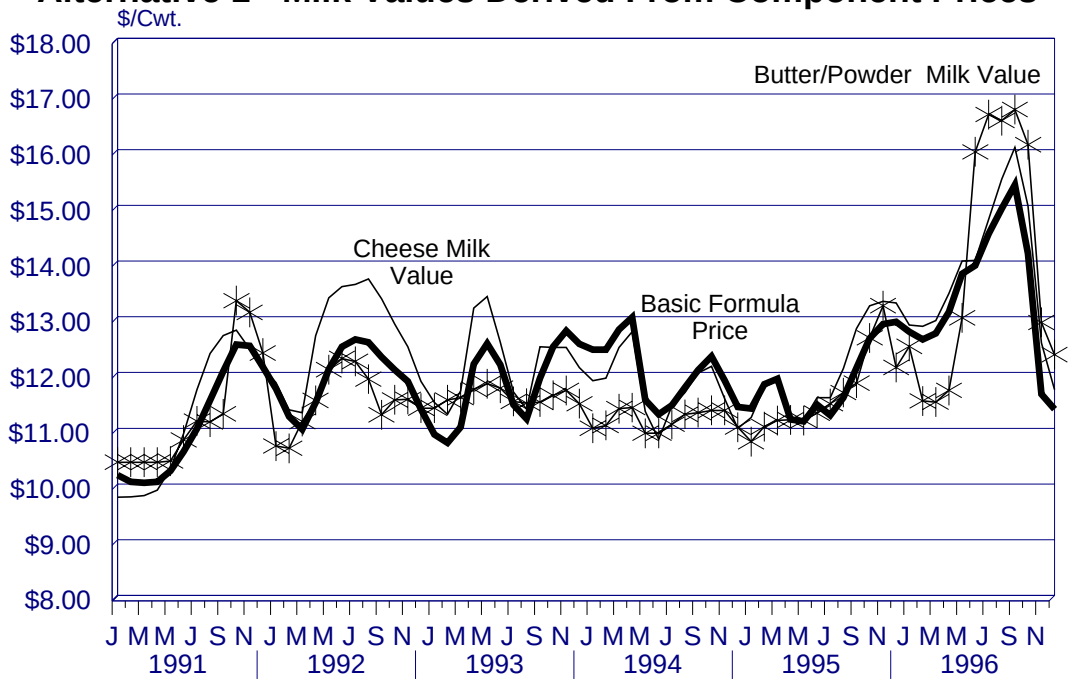
	BF Price Cheese $/lb	Protein Price Cheese $/lb	Lactose $/lb	Cheese Milk Value $/cwt	BF Price Bttr/Pdr $/lb	NFS Price Bttr/Pdr $/lb	Bttr/Pdr Milk Value $/cwt	Basic Formula Price $/cwt
Jan	1.8399	1.5352	0.1256	11.8530	0.7489	0.9852	10.9953	12.4100
Feb	1.8476	1.5416	0.1250	11.8978	0.7549	0.9895	11.0526	12.4100
Mar	1.9384	1.6174	0.1250	12.4543	0.8101	1.0013	11.3461	12.7700
Apr	1.9867	1.6577	0.1214	12.7334	0.8121	1.0038	11.3743	12.9900
May	1.7499	1.4601	0.1250	11.2986	0.7864	0.9593	10.9061	11.5100
Jun	1.6681	1.3918	0.1250	10.7974	0.7905	0.9583	10.9126	11.2500
Jul	1.7692	1.4762	0.1203	11.3953	0.8387	0.9566	11.0664	11.4100
Aug	1.8059	1.5068	0.1250	11.6418	0.8825	0.9605	11.2532	11.7300
Sep	1.8619	1.5535	0.1250	11.9850	0.8855	0.9627	11.2823	12.0400
Oct	1.8824	1.5707	0.1250	12.1111	0.8856	0.9668	11.3172	12.2900
Nov	1.7854	1.4898	0.1284	11.5324	0.8856	0.9675	11.3234	11.8600
Dec	1.6961	1.4152	0.1325	11.0035	0.8162	0.9606	11.0222	11.3800
94 Avg	**1.8193**	**1.5180**	**0.1253**	**11.7253**	**0.8248**	**0.9727**	**11.1543**	**12.0042**
Jan	1.7165	1.4322	0.1469	11.1948	0.7573	0.9545	10.7634	11.3500
Feb	1.8051	1.5061	0.1475	11.7405	0.8226	0.9588	11.0286	11.7900
Mar	1.8240	1.5220	0.1475	11.8568	0.8387	0.9647	11.1355	11.8900
Apr	1.6991	1.4177	0.1588	11.1429	0.8387	0.9668	11.1532	11.1600
May	1.6995	1.4181	0.1600	11.1513	0.8387	0.9647	11.1355	11.1200
Jun	1.7649	1.4726	0.1600	11.5517	0.8887	0.9594	11.2653	11.4200
Jul	1.7612	1.4696	0.1650	11.5524	0.9469	0.9564	11.4431	11.2300
Aug	1.8457	1.5400	0.1650	12.0702	1.0012	0.9574	11.6422	11.5500
Sep	1.9623	1.6373	0.1669	12.7934	1.0400	0.9617	11.8142	12.0800
Oct	2.0215	1.6867	0.1764	13.1997	1.2230	0.9809	12.6185	12.6100
Nov	2.0337	1.6969	0.1775	13.2794	1.3137	1.0123	13.2026	12.8700
Dec	2.0283	1.6924	0.1775	13.2465	0.9670	1.0247	12.0943	12.9100
95 Avg	**1.8468**	**1.5410**	**0.1624**	**12.0650**	**0.9564**	**0.9718**	**11.6080**	**11.8317**
Jan	1.9645	1.6392	0.1761	12.8493	0.9291	1.0849	12.4736	12.7300
Feb	1.9625	1.6375	0.1750	12.8316	0.8405	1.0056	11.4896	12.5900
Mar	1.9781	1.6505	0.1762	12.9331	0.8387	1.0043	11.4719	12.7000
Apr	2.0495	1.7101	0.1875	13.4224	0.8912	1.0069	11.6778	13.0900
May	2.1444	1.7893	0.1875	14.0041	1.1250	1.0639	12.9803	13.7700
Jun	2.1457	1.7903	0.1875	14.0118	1.6466	1.1993	15.9570	13.9200
Jul	2.2548	1.8814	0.2015	14.7452	1.8380	1.2000	16.6330	14.4900
Aug	2.3711	1.9784	0.2036	15.4674	1.8512	1.1811	16.5191	14.9400
Sep	2.4635	2.0555	0.2054	16.0419	1.8512	1.2052	16.7236	15.3700
Oct	2.2817	1.9038	0.2189	14.9900	1.6931	1.1960	16.0923	14.1300
Nov	1.8786	1.5675	0.2217	12.5326	0.9697	1.1189	12.9044	11.6100
Dec	1.7407	1.4524	0.2232	11.6941	0.9565	1.0559	12.3232	11.3400
96 Avg	**2.1029**	**1.7547**	**0.1970**	**13.7936**	**1.2859**	**1.1102**	**13.9371**	**13.3900**

The component formulas use the commodity markets to determine component values, thus introducing that element of instability into the derived price. The formulas are relatively simple and thus easy to compute and understand using available information. They are relatively easy to predict, following commodity prices. However, they may not be as stable as desired. Use of national component prices allows the value of milk to adjust automatically, reflecting regional differences in component levels. Manufacturers will be subject to the same component costs. These formulas meet the criteria for sound economics, since they directly reflect the value of the product in which the milk is used. Whether these product price formulas truly portray market conditions for milk used in manufactured products, and the requirements of the 1937 Act, are open to debate. The formulas certainly reflect market conditions for the commodities that are used, and accurately calculate the value of milk used in cheese and butter/powder in lieu of a supply- or demand-established price for milk.

An analysis of the prices generated by these formulas, converted to a standard milk test, showed that the Class IV price does not track the pattern of the current BFP as closely as the Class III price. This is not unexpected, since the current BFP is a cheese-driven price, and the Class IV price is derived from the butter/powder market. Thus, the Class III price would be expected to follow the current BFP much more closely (Figure 5, next page).

Industry comment is needed to develop appropriate make allowances, yields, and commodity price series for use in these formulas.

Figure 5
Comparison Of The Basic Formula Price With
Alternative 1 - Milk Values Derived From Component Prices



Option 2--Modified Benchmark Component Pricing

The second option is also a multiple component pricing plan, using price formulas based on the USC Benchmark Component Pricing plan. In that plan, the USC added hauling subsidies but did not include make allowances. This option eliminates the hauling subsidies, but does adjust for make allowances as described in option 1. The formulas for deriving the component prices are:

Protein price = (NCE block price - 0.137) × 1.32

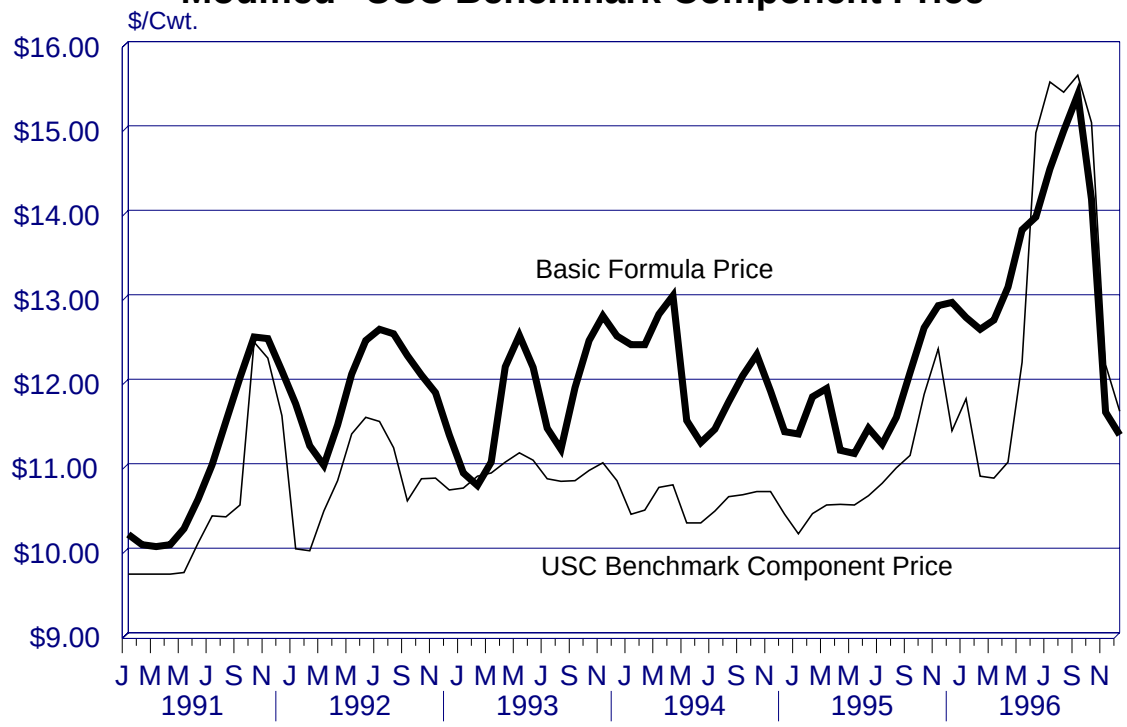
Butterfat price = (CME AA butter price - 0.049) × 1.1

Other solids price = [{(Western States nonfat dry milk price - 0.125) × 8.7} - (protein price × 3.2)]/5.5

"Modified" USC Benchmark Component price = (protein price × 3.15) + (butterfat price × 3.5) + (other solids price × 5.4)

In this option there is one butterfat price and an other solids price that is computed as a residual of the value of nonfat dry milk. This option met all of the criteria established by the USC, and performed best of all alternatives considered by the USC. However, this option does not follow the pattern of the current BFP as well as the first option (Figure 6). This result is probably due to the other solids price being a residual of the nonfat dry milk price (after the protein value is deducted), effectively making this price series more of a butter/powder formula than a cheese formula.

Figure 6
Comparison Of The Basic Formula Price With "Modified" USC Benchmark Component Price



In its report, the USC explained that a replacement for the current BFP should reflect the value of milk used in manufacturing both cheese and butter/powder. The Benchmark Component Price fulfills this goal by computing a value for protein based on the cheese market, and a value for butterfat and other solids based on the butter and nonfat dry milk markets. By pricing all manufacturing milk with one price,

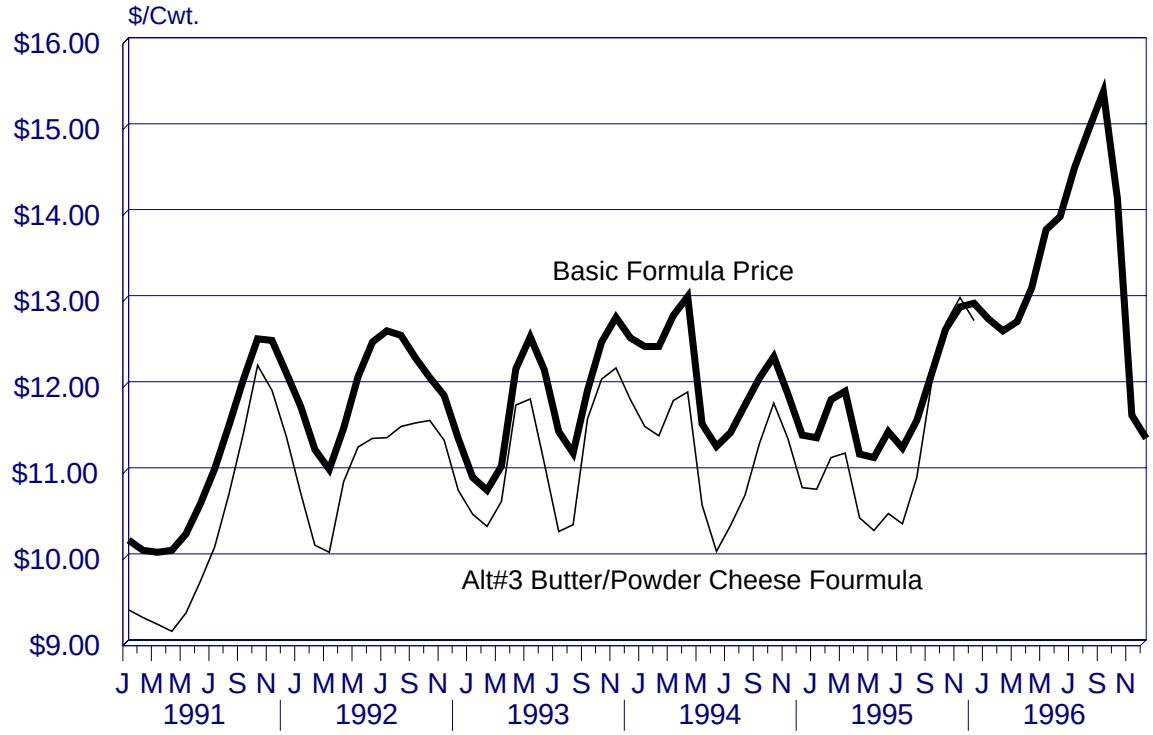
the implication is for three classes of milk: milk used for manufacturing (Benchmark Component Price), a soft manufactured price (Class II), and a Class I price based on the Benchmark Component Price as the Class I price mover.

Option 3--Butter/Powder Cheese Formula

Option 3 uses a butter/powder-cheese formula to compute a BFP that will function as the price for manufacturing milk used in all three products. It would be the Class III price in a three-class market, and the price mover for Class I and Class II. Option 3 uses seasonal product yields and a California cost-based make allowance. The contribution of each product to the price series is weighted by its share of U.S. production. Seasonal yield factors permit adjustment for seasonal variations in milk components, which affect the yield of the finished product. Make allowances incorporate the costs on which California's figures are based, and were obtained from the California Department of Food and Agriculture. No judgement is implied about the appropriateness of the California cost-based make allowances. They merely represent actual costs that vary over time and thus portray a source of realistic cost components.

This option performed well according to USC's second threshold criteria, except that it ranked poorly on stability. This option is also more complicated, with the use of seasonal yield factors rather than annual yield factors. Although the use of actual (California) manufacturing costs aided the performance of this option, it could be prohibitively expensive to collect and audit this data for plants scattered throughout the U.S. Option 3 resulted in the lowest average price of all alternatives considered by the USC, but followed the pattern of the current BFP very closely (Figure 7, next page).

Figure 7
Comparison Of The Basic Formula Price With Alternative 3 Butter/Powder Cheese Formula



Option 4--Competitive Pay Price & Product Formula

Option 4 is a combination of a competitive pay price series and a product price formula, much like the current BFP. The competitive pay price is the national weighted average price paid for Grade A milk used to produce manufactured dairy products for the preceding month, minus performance premiums, plus hauling subsidies. The product price formula is a procedure to update the competitive pay price information to the current month. An adjustment factor would have to be applied to reduce the resulting price, since it is likely that this updated price would result in price levels significantly above the current BFP.

The competitive pay price would be collected by NASS for a representative sample of states that account for the majority of Grade A milk used to produce manufactured products. This sample would cover California, Wisconsin, Minnesota, New York, Pennsylvania, Idaho, Washington, New Mexico, and Iowa. Since, as noted above, time is running out for a statistically-reliable sample of Grade B milk to serve as a competitive pay price, a strong case can be made that the new BFP replacement not include Grade B milk.

Milk component tests would be collected, and the price adjusted to standard tests. Performance premiums, including extra payments for quality and quantity, would be subtracted, as would revenues received from association with Federal order pools and over order charges on Class I and II milk. Hauling subsidies would be included, however. The beginning adjustment factor would be the annual average difference between this option and the current BFP for a recent (defined) period. The adjustment factor would be reviewed periodically and changed based on currently available data.

The procedure for updating the competitive pay price to the current month would be virtually identical to that currently used to update the BFP. The choice of product price series is left open for discussion, but weighting factors would be based on national production estimates.

The adjustments for over order charges, association with order pools, hauling subsidies, performance premiums, and differences with the current BFP are intended to address the problem of using a regulated price as a competitive pay price. This option should result in a price level consistently and significantly below Grade A competitive pay prices. Federal milk orders will continue to set minimum prices, and market forces would continue to operate to establish competitive pay prices. However, this price series does not currently exist. Therefore, the BFP Committee will develop a representative price series based on information available

from NASS and unpublished information from Federal Market Administrator offices. This price series will be made available to interested parties upon request.

Breaking The Link Between The BFP And Class I & Class II Prices

The current BFP serves two functions in the milk marketing order system: 1) the BFP is the Class III price, which (until Class III-A pricing) was the manufacturing class; and 2) the BFP is the price mover for Class I and Class II product prices. There have been several suggestions to separate these two functions, based on opinions that demand for fluid (Class I) milk is not as responsive to changes in prices as is demand for manufactured product prices. Therefore, fluid milk should be priced independently of manufactured products.

Others point out, however, that the identical raw commodity (milk) used in all end products justifies acknowledging a price relationship between fluid and manufactured uses of milk. Since manufactured products represent, in effect, the residual use of milk not needed for fluid demand, milk used to produce manufactured products must be priced at a level that will allow the market to clear and prevent stockpiling.

All of the options identified above can be developed without consideration of the Class I differentials. That is, milk for manufacturing purposes can be priced based on any of the options, as the sole purpose of a new replacement BFP. Or, the current system of adding differentials to a manufactured price can be continued. In the case of a four-class system such as Option 1, Class I differentials could be added to a weighted average of Class III and Class IV prices or to changes in the

higher of these manufacturing prices to establish the new Class I price in a marketing order area.

Establishing Class I prices separately from the replacement BFP, perhaps with quarterly or less frequent adjustment periods, would give Class I handlers and consumers a more stable and predictable Class I price. The Class I price could be adjusted by a feed cost factor, or by using other economic conditions in the marketing area. The 1937 Act requires the fluid milk price to reflect consideration of factors like these to ensure a sufficient quantity of pure and wholesome milk and a level of income to maintain productive capacity to meet those needs.

Class II

There are several ways to price Class II milk. Similar to the current procedure, a fixed differential may be added to either the Class III or Class IV price. National All-Jersey suggested an alternative to this method that divides Class II into two classes: a protein class and a nonfat solids class. The prices for the Class II subparts are computed in the same way as the prices for Class III (protein) or Class IV (nonfat solids), however the make allowance is excluded. A higher price for milk used in Class II products results from this method in comparison to milk used in Class III and IV. A variation of this method uses the wholesale butter and NFDM prices to calculate the Class II price (which probably would be lower than the current price).

A third approach would eliminate Class II and distribute the products to the remaining classes based on their characteristics. Cottage cheese might move to Class III since it is a protein-based manufactured product and condensed milk would be a Class IV product based on the importance of its nonfat solids content. This alternative would address some concerns about substitution of intermediate products for fluid milk in other manufactured products. For example, nonfat dry milk

currently is priced substantially below condensed milk when it is used in Class II products. Whether this third alternative would result in more or less money to dairy producers would depend on the final pricing structure.

Stability

Price stability is one of the BFP Committee's criteria for a BFP replacement. This issue has come to the forefront of pricing since the price support program is no longer an effective price floor for manufactured dairy products. If the dairy industry favors reduced government price regulation; that is, free market price discovery, prices will continue to fluctuate as they have during the past several years. In fact, the tighter the supply/demand situation, the more volatile dairy prices will be. Total regulation of dairy pricing could offer complete price stability. Total regulation would require some sort of supply management since all prices would be established by regulation and some type of supply/demand balancing would have to occur. It is not likely that a support-type price program would be implemented. Whether the industry or the nation is willing to bear the cost of total regulation is an important consideration. Several alternatives for reducing price fluctuations without increased government regulation are being investigated by the BFP Committee. One alternative applies a portion of the change in the price of manufactured dairy products in the first month and the rest of the change in succeeding months. For instance, if the BFP formula results in a $1.00 change in price from January to February, then only 70 percent ($0.70) would be applied to the February price, with the rest of the change ($0.30) applied to the March price (Figure 8, next page).

Figure 8
Comparison Of The Basic Formula Price With Base Month Price Plus 70% and 30% Adjuster

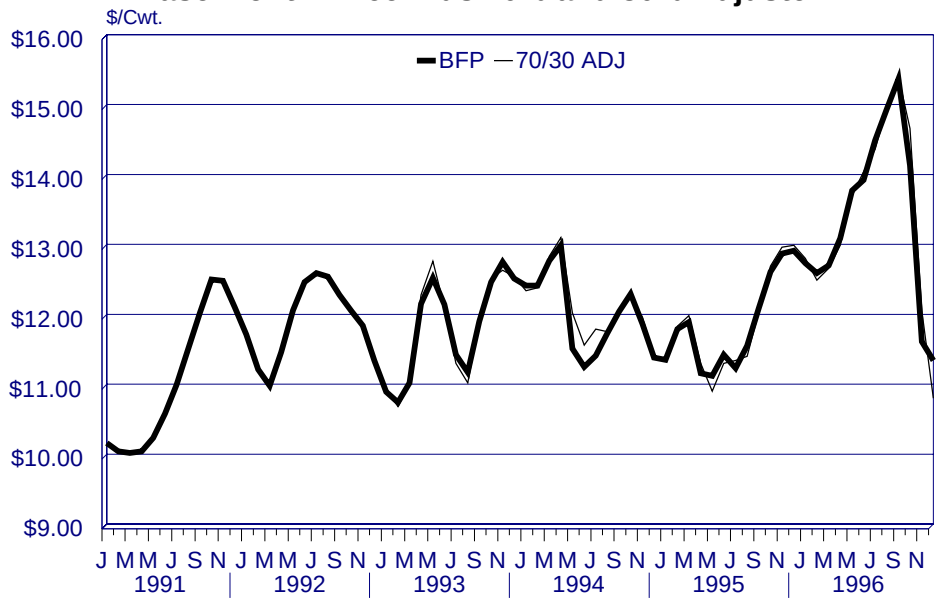
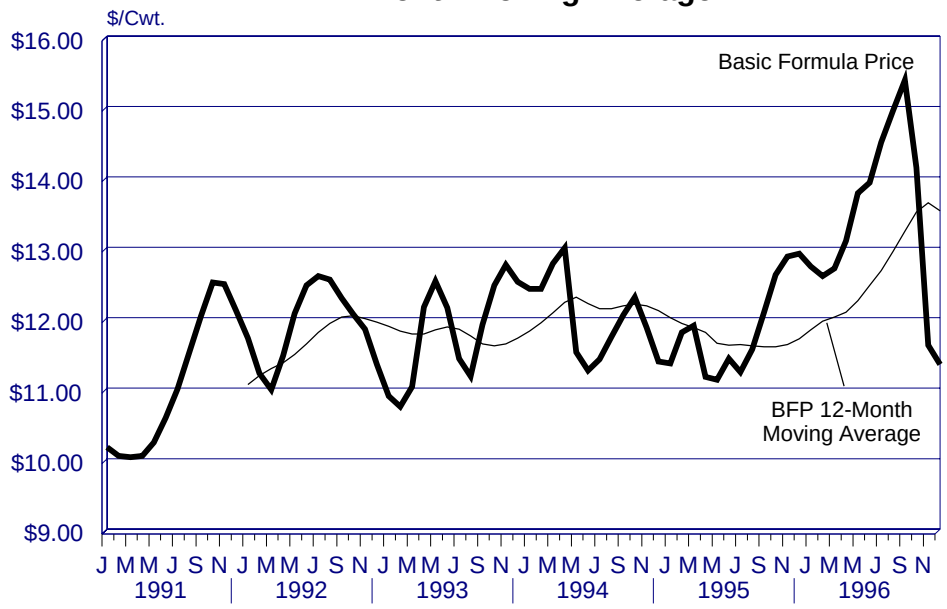


Figure 9
Comparison Of The Basic Formula Price With BFP 12-Month Moving Average



A second alternative uses a moving average of the current month and the past 11 months as the current month's price. The more months that are included in the moving average the more stable the price series. A moving average would be considerably easier to apply than a percentage of each month's change applied over several months (Figure 9, previous page).

A drawback to using a percentage change or a moving average to stabilize prices is that the dynamics of the market are translated through the pricing system over an extended period of time rather than immediately. The delayed pricing signals, however, may not be a problem. Since Federal milk orders set minimum prices for all classes and minimum payments to producers, the delayed pricing signals may even help, in that short term fluctuations in prices may not cause as much disruption to the industry as has occurred in the recent past.

Impact On Small Business

It is important, at every stage of development of a BFP, to consider the regulatory impact on small business. On October 24, 1996, the Director of the Dairy Division requested that the public contribute to the analysis of the impact of regulatory changes, particularly how they may affect small business. That notice to interested parties said, in part:

> We anticipate that the consolidation may have an impact on handlers and producers affected by the program. Of particular interest is the impact of these changes on small businesses. According to the Small Business Administration's definition, a dairy farm is a "small business" if it has a gross revenue of less than $500,000 per year, and a handler is a "small business" if it has fewer than 500 employees. For the purpose of determining if a dairy farm is a "small business," the $500,000 per year criterion was used to establish an estimated production guideline

of 326,000 pounds per month for “small” dairy farmers. To clarify a handler’s size, if a handler’s plant is part of a larger company operating multiple plants that collectively exceed the 500 employee limit, the plant is considered a large business even if the local plant has fewer than 500 employees.

The Regulatory Flexibility Act of 1980 (RFA), as amended, specifically requires USDA to review regulations to ensure that, while accomplishing their intended purpose, they do not unduly inhibit the ability of small businesses to compete. As a result of the RFA, I am seeking your input on how small businesses may be affected by proposed changes to Federal orders, in addition to ideas on consolidation and price structure changes. Examples of such input may include the impact of proposed regulations on a small business’ ability to buy or sell milk and milk products or how proposed changes required in reporting and record keeping affect the efficiency of a small business. Input on this issue will allow USDA to use industry and public expertise to analyze the impact of regulatory changes on small businesses.

Future Considerations

Changing milk production patterns which have occurred during the past several years have affected the regional supply and demand for milk. These continuing trends could affect the development of a BFP. Therefore, the BFP Committee developed estimates of milk production and per capita production for the year 2000 (Appendix 8). These estimates are not based on official USDA data.

The Committee will continue to review and analyze alternatives since the time available to interested parties to file comments has not elapsed. Many of the industry suggestions were submitted as concepts and in some instances indications are that further development will be supplied.

Based on public comments through January 1997 and the available data, the BFP Committee believes that the ideas/concepts suggested in this report have merit at this time. The Committee and Department are open to continuing public comment, and may make revisions to this report as additional information becomes available.

This report is a “Preliminary Report.” It is expected that future analysis and input will be required as the 1996 Act is implemented. The BFP Committee at this time, without excluding any other concepts, has suggested the noted options for a BFP.

In addition, the BFP Committee work has to be incorporated with the work of the other committees. The recommendations contained in this report include some contradiction to other committees and these differences will be reconciled before a proposed restructured order program is published.

Order Language

The development of order language for any of the four favored options would be relatively simple. The BFP Committee does not consider the development of specific order language necessary at this time.

Footnotes

1. 7 U.S.C. §608c(18) Milk prices. The Secretary of Agriculture, prior to prescribing any term in any marketing agreement or order, or amendment thereto, relating to milk or its products, if such term is to fix minimum prices to be paid to producers or associations of producers, or prior to modifying the price fixed in any such term, shall ascertain the parity prices of such commodities. The prices which it is declared to be the policy of Congress to establish in section 2 of this title shall, for the purposes of such agreement, order, or amendment, be adjusted to reflect the price of feeds, the available supplies of feeds, and other economic conditions which affect market supply and demand for milk or its products in the marketing area to which the contemplated marketing agreement, order, or amendment relates. Whenever the Secretary finds, upon the basis of the evidence adduced at the hearing required by section 8b or 8c, as the case may be, that the parity prices of such commodities are not reasonable in view of the price of feeds, the available supplies of feeds, and other economic conditions which affect market supply and demand for milk and its products in the marketing area to which the contemplated agreement, order, or amendment relates, he shall fix such prices as he finds will reflect such factors, insure a sufficient quantity of pure and wholesome milk to meet current needs and further to assure a level of farm income adequate to maintain productive capacity sufficient to meet anticipated future needs, and be in the public interest. Thereafter, as the Secretary finds necessary on account of changed circumstances, he shall, after due notice and opportunity for hearing, make adjustments in such prices.

2. Basic Formula Price Committee, Dairy Commodity Price Survey, Market Administrator Office, Lisle, IL. October 1996.

3. Milk in the New England and Other Marketing Areas; Decision on Proposed Amendments to Tentative Marketing Agreements and Orders. Federal Register, Volume 60, No. 25. February 7, 1995; p. 7290

4. BFP University Study Committee, An Economic Evaluation of Basic Formula Price (BFP) Alternatives, Interim Report, AFPC Working Paper 96-5, p.29-39.

5. United States Department of Agriculture, Agricultural Marketing Service, Dairy Division, Study of Alternatives to Minnesota-Wisconsin Price, September 1991.

6. Emmons, D.B., D. Tulloch, and C.A. Ernstrom *Product Yield Pricing System. 1. Technological Considerations in Multiple Component Pricing of Milk* Journal of Dairy Science 73:1712-1723, 1990.

7. The Van Slyke formula will give a good estimation of cheese yield potential of milk based solely on milk composition. The formula is: Percent Yield=[{(0.93*Percent Milkfat)+ (Percent Casein - 0.1)}*1.09]/(1 - percent moisture in the cheese)

Appendix 1 --- Letter From Richard M. McKee

May 2, 1996

To: Interested Parties

From: Richard M. McKee /s/
Director
Dairy Division

Subject: Announcement of Procedures to Implement the 1996 Federal Agricultural Improvement and Reform Act Mandates to the Federal Milk Order Program

The 1996 FAIR Act signed by President Clinton on April 4, 1996, requires that the current 33 Federal milk marketing areas be consolidated, or merged, into 10 to 14 orders within 3 years. This is an enormous undertaking that will require the cooperation and support of the industry. Also, the Secretary is directed to designate the State of California as a Federal milk order if California dairy producers petition for and approve such an order. Finally, the FAIR Act specifies that the Department (USDA) use informal rulemaking to implement these reforms.

The authorization of informal rulemaking to achieve these reforms will result in a rulemaking process that is substantially different from the formal rulemaking process that has always been used to promulgate or amend Federal orders. The formal rulemaking process requires that decisions be based solely on the evidentiary record of a public hearing held before an Administrative Law Judge. Formal rulemaking involves the presentation of sworn testimony, cross-examination of witnesses, opportunity to file briefs, issuance of a recommended decision, the filing of exceptions, and the issuance of a final decision voted on by affected producers. The informal rulemaking process does not involve these procedures. Instead, informal rulemaking provides for the issuance of a proposed rule by the Agricultural

Marketing Service, a period of time for the filing of comments by interested parties, and the issuance of a final rule by the Secretary. Typically, informal rules do not require a referendum to determine approval; however, this proceeding will require a referendum to determine producer approval of the new orders.

Although not required, USDA will not issue a proposed rule of this magnitude without full participation of interested parties. The issues are too important and complex for a proposed rule to be developed without significant input from all facets of the dairy industry. We believe that the experience, knowledge and expertise of the industry are essential to the development of a proposed rule. Thus, USDA has developed a plan of action and time line that will allow for maximum industry input into the process while still meeting the legislated deadline of April 4, 1999. The process will consist of two phases. The first phase is a developmental process and the second phase is the rulemaking process. The use of a developmental phase will allow USDA to interact freely with the industry to develop a viable proposal to accomplish the mandates and is crucial to gaining maximum industry input in the process. During the developmental phase, USDA is not subject to ex parte rules specified in the Sunshine Act (Pub. L. 94-409). The developmental phase began on April 4, 1996, and will continue through late 1997 when the proposed rule is published in the Federal Register.

As the first stage in the developmental phase, USDA is requesting that all interested parties submit ideas on the reforms set forth by the FAIR Act. Of primary importance at this time is the consolidation of the 33 Federal orders and how the pricing structure may be revamped. All ideas submitted should include an explanation and a justification statement. Market Administrators are available to provide assistance and/or data in the development of ideas. These ideas should be sent to me at the following address: Richard M. McKee, Director, Dairy Division, USDA/AMS, Room 2968, South Building, P.O. Box 96456, Washington, D.C. 20090-6456. Ideas will be received throughout the entire process; however, submissions by July 1, 1996, would be appreciated.

Continuing the developmental phase, in late fall, USDA will issue an announcement outlining preliminary marketing areas and a possible pricing structure. Following this issuance, informal discussion sessions will be held with interested parties to obtain input on the preliminary report. We anticipate these meetings to be organized by the Market Administrators as requested. Written suggestions will also be requested on the preliminary report.

The next step in the developmental phase will occur in late spring 1997 when USDA expects to issue a revised report on the marketing areas and pricing structure. This report will also include concepts and ideas for other order provisions. Again, informal discussion sessions will be held with interested parties to obtain input on the report and written suggestions will be requested. It is the goal of USDA that through this developmental process a proposed rule can be developed that will address the mandates specified in the Farm Bill and other reforms consistent with the Administration's goals.

The rulemaking phase will begin once the proposed rule is published in the Federal Register in late 1997. Interested parties will be provided 60 days to file written comments with USDA. After reviewing these comments, USDA will publish a final rule in the late summer of 1998. Informational meetings will be held with interested parties to explain how the new orders will be implemented and the projected effect on producers and handlers in each new marketing area. Producers will vote in a referendum on the new orders. Upon approval, USDA anticipates issuing a final order making the new orders effective on January 1, 1999.

Attached is a projected time line for this process.

The legislation requires substantial reform of the Federal order program. USDA is committed to utilizing the expertise in the industry to the fullest extent in developing a proposed rule. We welcome your ideas and contributions in meeting the mandates

of the 1996 FAIR Act. If you have any questions concerning this process, please contact my staff or me at (202) 720-4392.

Below is a projected time line for implementing the Farm Bill Federal milk marketing order reforms within the statutory deadline.

Program Announcement to interested parties advising of FAIR Act requirements and procedure to be followed.	Late Spring 1996
Announce preliminary mergers and pricing structure in an announcement to interested parties.	Late Fall 1996
Hold informal discussion sessions with the public to further develop preliminary mergers and pricing structure as requested.	Winter 1996-97
Announce revised marketing areas, pricing structure and concepts for specific order provisions.	Late Spring 1997
Hold informal discussion sessions with the public to further develop order provisions as requested.	Late Spring 1997
Issue proposed rule in Federal Register. Interested parties will be provided 60 days to submit written comments.	Winter 1997
Issue final rule in Federal Register.	Summer 1998
Conduct informational meetings with interested parties about the new orders.	Summer 1998
Conduct referendum to determine producer approval.	Fall 1998
Publish final order in Federal Register.	Fall 1998
New orders effective.	January 1, 1999

Appendix 2 --- USC Committee

AN ECONOMIC EVALUATION OF BASIC FORMULA PRICE (BFP) ALTERNATIVES

Interim Report
AFPC Working Paper 96-5
October 1996

Members of the BFP University Study Committee:

Ronald Knutson, Texas A&M University, Chair
David A. Bessler, Texas A&M University
Robert A. Cropp, University of Wisconsin
Larry G. Hamm, Michigan State University
Harold M. Harris, Clemson University
Joe L. Outlaw, Texas A&M University
J. Rohan Perera, Texas A&M University
John W. Siebert, Texas A&M University
Daniel A. Sumner, University of California, Davis
Robert D. Yonkers, Pennsylvania State University

The report and its appendix are available from:

Agricultural and Food Policy Center
Department of Agricultural Economics
Texas A&M University
College Station, Texas 77843-2124

Telephone: 409-845-5913

Web Site: http://AFPC1.TAMU.EDU

Appendix 3 --- Current BFP Computation

Example of the Computation of the Basic Formula Price

	November 1996	December 1996
AA Butter CME	$0.8248	$0.8142
A Butter CME	$0.7147	$0.7302
NCE Blocks	$1.3245	$1.2373
NFDM Western States Low/Medium	$1.1807	$1.1315
Dry Buttermilk Western States	$1.2839	$0.9779

November Values

Cheese (9.87 x $1.3245) + (.238 x $0.7147) = $13.2429
Butter/NFDM (4.27 x $0.8248) + (8.07 x $1.1807)+ (.42 x $1.2839) = $13.5894

December Values

Cheese (9.87 x $1.2373) + (.238 x $0.7302) = $12.3859
Butter/NFDM (4.27 x $0.8142) + (8.07 x $1.1315) + (.42 x $0.9779) = $13.0186

Difference

Cheese (December - November) = $(0.8570)
Butter/NFDM (December - November) = $(0.5708)

	Pounds	Yield Factor	Milk Equivalent Pounds/Yield Factor	Percent Total M.E.
Oct. Cheese	125,860	9.87	12,751.8	99.2
Oct. NFDM	787	8.07	97.5	0.8
Total			12,849.3	100.0

Cheese: % Oct Lbs. (M.E.) x Change In Value (Dec-Nov) = .992 x ($0.8570) = ($0.8501)
Butter/NFDM: % Oct Lbs. (M.E.) x Change In Value (Dec-Nov) = .008 x ($0.5708) = ($0.0046)

Update Value = Chg In Cheese + Chg In Butter/NFDM = ($0.8501)+($0.0046) = ($0.8547)
Rounded To Near Whole Cent = ($0.85)

Basic Formula Price Calculations

November Minnesota-Wisconsin Base Price (3.5% BF)	$12.19
Update value	($0.85)
Basic Formula Price December 1996	$11.34

Appendix 4 --- Jesse Economic Formula Data

		Dairy Product Indices and Weights				Composite Index		Unadjusted Formula Price		Yield Adjustment			Adjusted Formula Price (1/3)		
Year	Month	Butter 0.10	Cheese 0.80	NDM 0.10	Wgt Avg	Weights	.6\.2\.2	Eq Weights	.6\.2\.2	Monthly Milk	Days	90-92 Index	Eq Weights	.6\.2\.2	MW Price
1992	1	97.26	98.55	94.71	96.44	99.56	99.95	11.68	11.70	1,288	31	100.52	11.64	11.88	11.71
	2	91.19	92.18	96.97	92.58	98.27	99.16	11.51	11.61	1,237	29	103.20	11.39	11.49	11.21
	3	91.19	91.46	101.19	92.40	98.22	99.15	11.50	11.61	1,343	31	104.81	11.32	11.43	10.98
	4	91.19	109.93	105.28	102.79	102.08	101.53	11.85	11.89	1,316	30	106.13	11.71	11.65	11.46
	5	88.89	105.57	115.04	104.85	102.68	101.91	12.02	11.93	1,353	31	106.37	11.77	11.68	12.06
	6	82.36	107.15	116.00	105.55	102.98	102.09	12.06	11.95	1,305	30	105.24	11.85	11.75	12.46
	7	81.79	108.00	114.31	108.01	103.62	102.40	12.13	11.99	1,322	31	103.17	12.01	11.87	15.59
	8	81.56	108.70	110.95	106.21	103.69	102.44	12.14	12.00	1,295	31	101.07	12.10	11.95	12.54
	9	87.58	105.81	104.48	103.85	102.90	101.97	12.05	11.94	1,246	30	100.48	12.03	11.92	12.28
	10	86.66	102.35	107.37	101.30	102.80	101.44	12.04	11.88	1,278	31	99.74	12.05	11.89	12.05
	11	86.57	99.36	108.48	98.89	102.00	100.96	11.94	11.82	1,237	30	99.76	11.95	11.83	11.84
	12	82.79	94.88	108.60	95.04	100.72	100.19	11.79	11.73	1,292	31	100.83	11.76	11.70	11.84
1993	1	79.42	92.65	110.34	93.09	100.04	100.41	11.72	11.76	1,324	31	103.33	11.59	11.63	10.89
	2	79.42	91.40	113.15	92.38	99.81	100.27	11.69	11.74	1,223	28	105.67	11.47	11.52	10.74
	3	79.42	95.00	112.65	95.20	100.75	100.84	11.80	11.81	1,367	31	106.69	11.54	11.55	11.02
	4	79.42	107.84	113.17	105.63	105.13	103.96	12.31	12.17	1,335	30	107.66	12.00	11.87	12.15
	5	79.42	108.72	114.56	107.18	105.68	104.29	12.37	12.21	1,418	31	110.67	11.95	11.79	12.52
	6	79.77	103.64	112.19	102.11	103.99	103.28	12.18	12.09	1,358	30	109.52	11.80	11.72	12.03
	7	77.32	97.87	108.91	98.92	101.81	101.36	11.92	11.87	1,358	31	105.83	11.69	11.64	11.42
	8	78.08	98.31	108.89	95.73	101.41	101.12	11.88	11.84	1,317	31	102.78	11.77	11.73	11.17
	9	78.33	105.55	108.57	103.13	103.88	102.60	12.16	12.01	1,363	30	109.92	11.78	11.63	11.90
	10	78.58	105.99	110.14	103.85	105.18	104.11	12.31	12.19	1,291	31	100.76	12.28	12.16	12.48
	11	78.08	106.08	111.97	103.85	105.23	104.15	12.32	12.20	1,250	30	100.81	12.29	12.18	12.76
	12	73.38	103.66	112.06	101.47	104.43	103.67	12.23	12.14	1,312	31	102.39	12.13	12.04	12.51
1994	1	67.39	102.43	109.11	99.60	105.37	105.70	12.34	12.38	1,343	31	104.81	12.14	12.18	12.41
	2	67.70	102.82	109.23	99.90	105.48	106.77	12.35	12.39	1,236	28	106.60	12.08	12.11	12.41
	3	68.53	107.34	109.81	103.61	108.77	108.55	12.50	12.48	1,401	31	109.34	12.13	12.10	12.77
	4	69.45	108.75	110.10	105.75	108.30	107.89	12.68	12.63	1,396	30	112.68	12.17	12.12	12.09
	5	68.35	97.95	107.82	95.98	105.04	105.93	12.30	12.48	1,457	31	113.71	11.76	11.88	11.51
	6	69.13	93.88	105.43	92.56	103.90	105.25	12.17	12.32	1,388	30	111.94	11.70	11.85	11.25
	7	71.60	98.91	104.99	96.79	105.15	105.24	12.31	12.32	1,389	31	108.40	11.98	11.99	11.41
	8	75.94	100.74	105.89	98.78	105.82	105.04	12.39	12.37	1,389	31	108.84	12.11	12.09	11.79
	9	75.94	103.53	105.95	101.01	106.58	108.08	12.48	12.42	1,318	30	108.29	12.22	12.17	12.01
	10	75.94	104.44	108.40	101.89	107.19	105.97	12.55	12.41	1,354	31	105.67	12.32	12.18	12.29
	11	75.94	99.72	108.02	98.02	106.90	105.20	12.40	12.32	1,312	30	105.01	12.17	12.08	11.86
	12	70.08	95.27	108.22	93.85	104.51	104.36	12.24	12.22	1,370	31	108.92	11.96	11.95	11.38
1995	1	67.39	95.13	108.07	94.25	100.10	105.93	12.42	12.41	1,394	31	108.79	12.07	12.08	11.35
	2	69.57	100.70	108.47	98.17	107.40	106.75	12.59	12.50	1,291	28	111.65	12.11	12.04	11.79
	3	70.60	101.65	107.13	99.09	107.83	107.16	12.83	12.65	1,444	31	112.70	12.11	12.04	11.89
	4	71.13	95.42	108.92	94.14	108.71	108.50	12.50	12.51	1,417	30	114.28	11.93	11.94	11.16
	5	70.60	95.45	108.20	94.04	108.59	108.61	12.48	12.46	1,475	31	115.12	11.88	11.89	11.12
	6	74.87	98.70	108.11	97.06	107.78	107.56	12.82	12.80	1,414	30	114.03	12.05	12.03	11.42
	7	79.85	98.60	108.05	97.47	108.50	108.11	12.71	12.66	1,408	31	109.69	12.30	12.28	11.23
	8	84.50	102.73	108.05	101.24	110.90	109.31	12.85	12.80	1,372	31	107.08	12.58	12.50	11.55
	9	99.48	106.63	108.54	107.43	112.17	110.75	13.14	12.97	1,328	30	107.10	12.83	12.67	12.08
	10	102.41	111.48	107.99	110.22	114.30	112.68	13.38	13.22	1,380	31	108.14	13.12	12.96	12.61
	11	110.17	112.09	112.72	111.96	116.44	114.22	13.52	13.37	1,315	30	108.05	13.25	13.11	12.87
	12	78.83	111.82	116.91	108.63	115.23	115.10	13.49	13.48	1,373	31	107.15	13.18	13.16	12.81
1996	1	79.58	108.84	114.17	108.29	115.20	115.68	13.49	13.54	1,408	31	109.73	13.07	13.12	12.73
	2	69.76	108.54	110.18	104.63	114.64	115.59	13.45	13.54	1,338	29	111.62	12.95	13.03	12.69
	3	69.53	109.32	109.42	105.35	115.49	110.55	13.52	13.65	1,459	31	113.87	12.96	13.05	12.70
	4	74.41	112.88	109.66	108.71	117.20	117.87	13.72	13.80	1,434	30	115.63	13.04	13.12	13.09
	5	96.37	117.60	115.31	115.15	120.14	120.59	14.07	14.12	1,470	31	114.73	13.41	13.46	13.77
	6	139.73	117.87	126.98	121.00	121.96	121.50	14.28	14.23	1,387	30	111.88	13.74	13.69	13.92
	7	154.98	123.10	131.78	127.16	124.49	123.26	14.58	14.43	1,397	31	109.03	14.15	14.01	14.49
	8	155.10	129.89	130.13	131.64	125.91	124.02	14.74	14.62	1,377	31	107.47	14.39	14.17	14.94
	9	155.10	133.50	131.11	135.42	128.79	124.09	14.85	14.53	1,337	30	107.62	14.47	14.16	15.37
	10	133.12	124.44	130.77	125.94	123.32	121.63	14.44	14.24	1,373	31	107.15	14.10	13.77	14.13

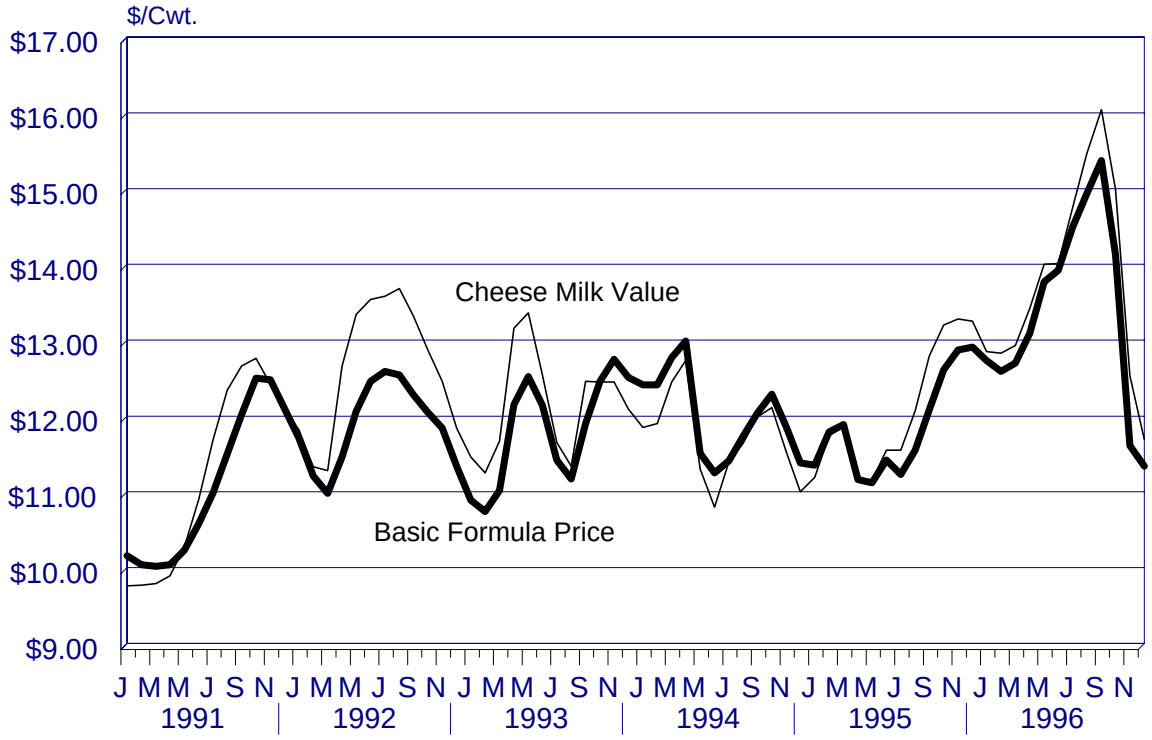
Year	Month	Interest 0.06	Taxes 0.03	Fm Sarv Cash Ran 0.07	Prices Paid 0.05	Dairy Parity Index	Nominal	Index	Butter	Cheese	NDM
1992	1	93	104	104	101	100.54	17,143	101.72	90.93	122.53	95.28
	2	93	104	104	101	100.54	17,143	101.72	85.25	116.99	97.55
	3	93	104	104	101	100.54	17,143	101.72	85.25	116.07	101.80
	4	93	104	104	101	100.75	17,297	102.63	85.25	131.90	105.89
	5	93	104	104	101	100.75	17,297	102.63	81.23	133.98	115.73
	6	93	104	104	101	100.75	17,297	102.63	77.00	135.98	116.70
	7	93	104	104	101	100.57	17,577	104.29	76.47	137.06	115.00
	8	93	104	104	101	100.57	17,577	104.29	76.25	137.95	111.62
	9	93	104	104	101	100.57	17,577	104.29	81.88	134.28	105.11
	10	93	104	104	101	99.40	18,153	107.71	81.21	129.89	108.01
	11	93	104	104	101	99.40	18,153	107.71	80.00	126.10	109.13
	12	93	104	104	101	99.40	18,153	107.71	77.40	120.41	109.25
1993	1	88	107	105	103	100.97	17,876	106.07	74.25	117.58	111.00
	2	88	107	105	103	100.97	17,876	106.07	74.25	116.00	113.83
	3	88	107	105	103	100.97	17,876	106.07	74.25	120.56	113.33
	4	88	107	105	104	102.21	18,141	107.64	74.25	136.86	113.85
	5	88	107	105	104	102.21	18,141	107.64	74.25	139.25	115.25
	6	88	107	105	104	102.21	18,141	107.64	74.58	131.53	112.86
	7	88	107	105	103	100.68	18,174	107.83	72.29	124.21	109.56
	8	88	107	105	103	100.68	18,174	107.83	73.00	122.23	109.34
	9	88	107	105	103	100.68	18,174	107.83	73.23	133.95	109.22
	10	88	107	105	104	102.53	18,421	109.30	73.45	134.50	110.80
	11	88	107	105	104	102.53	18,421	109.30	73.00	134.60	112.64
	12	88	107	105	104	102.53	18,421	109.30	68.58	131.55	112.73
1994	1	92	112	111	108	108.21	18,588	110.29	63.00	130.00	109.76
	2	92	112	111	108	108.21	18,588	110.29	63.20	130.49	109.89
	3	92	112	111	106	108.21	18,588	110.29	65.00	138.23	110.47
	4	92	112	110	107	107.27	18,853	111.86	64.93	139.28	110.78
	5	92	112	110	107	107.27	18,853	111.86	63.90	124.31	108.47
	6	92	112	110	107	107.27	18,853	111.86	64.63	119.14	106.06
	7	92	112	111	108	105.37	19,095	113.30	66.94	125.53	105.62
	8	92	112	111	108	105.37	19,095	113.30	71.00	127.85	106.53
	9	92	112	111	108	105.37	19,095	113.30	71.00	191.39	108.69
	10	92	112	112	108	104.14	19,473	115.54	71.00	132.59	107.04
	11	92	112	112	108	104.14	19,473	115.54	71.00	120.58	107.10
	12	92	112	112	108	104.14	19,473	115.54	85.52	120.91	108.88
1995	1	103	117	118	109	105.80	19,931	116.28	83.00	122.00	106.71
	2	103	117	118	109	105.78	19,931	116.28	85.04	127.80	107.11
	3	103	117	118	109	106.14	19,931	116.28	68.00	129.00	107.77
	4	103	117	117	109	106.93	20,068	119.07	66.50	121.10	107.66
	5	103	117	117	109	106.65	20,068	119.07	68.00	121.13	108.84
	6	103	117	118	110	107.22	20,068	119.07	70.00	125.28	108.75
	7	103	117	118	110	107.64	20,308	120.48	74.85	125.13	106.69
	8	103	117	118	110	106.27	20,308	120.48	79.00	130.37	106.69
	9	103	117	118	110	106.61	20,308	120.48	90.00	137.74	107.18
	10	103	117	117	111	110.70	20,555	121.98	95.74	141.48	108.64
	11	103	117	117	111	112.39	20,555	121.98	103.00	142.25	113.40
	12	103	117	117	112	114.91	20,665	121.98	71.83	141.81	117.61
1996	1	102	121	118	113	118.34	20,727	122.96	74.40	137.88	114.85
	2	102	121	118	113	118.72	20,727	122.98	65.21	137.75	110.84
	3	102	121	118	114	118.14	20,727	122.98	65.00	138.74	110.08
	4	102	121	118	114	118.88	20,900	124.01	69.67	143.25	110.32
	5	102	121	118	115	121.27	20,900	124.01	89.18	149.25	116.00
	6	102	121	118	115	120.83	20,900	124.01	130.83	149.33	129.75
	7	102	121	118	115	121.41	21,050	124.90	144.87	158.23	132.57
	8	102	121	119	115	121.19	21,050	124.90	145.00	163.58	130.91
	9	102	121	119	115	120.04	21,050	124.90	145.00	169.42	131.90
	10	102	121	119	115	118.11	21,050	124.90	124.45	157.03	131.55

1990-92 Averages						
	Income	18,854	Dollars per Capita	NDM	100.60	Cents per Pound
	Butter	93.49	Cents per Pound	M-W Price	11.71	Dollars per Hundredweight
	Cheese	126.91	Cents per Pound	Daily Milk	41.33	Pounds per Cow

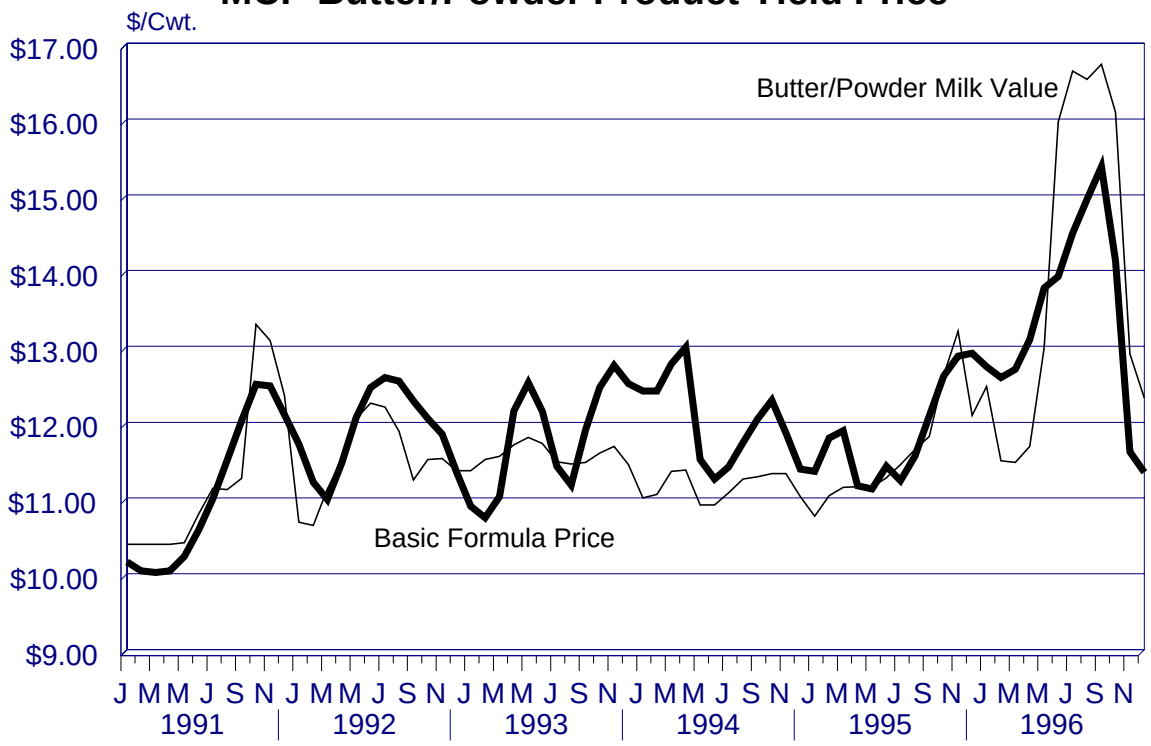
		Dairy Parity Component Indices and Weights									
Year	Month	Feed 0.35	Feeder Livestock 0.05	Seed 0.02	Fert 0.05	Ag Chem 0.01	Fuels & Energy 0.06	Farm Supplies 0.04	Farm Mach 0.08	Building & Fencing 0.10	Wage Rates 0.06
1992	1	100	94	99	101	101	95	102	103	100	110
	2	100	94	99	101	101	95	102	103	100	110
	3	100	94	99	101	101	95	102	103	100	110
	4	101	95	99	100	104	92	102	104	102	104
	5	101	95	99	100	104	92	102	104	102	104
	6	101	95	99	100	104	92	102	104	102	104
	7	100	96	99	100	104	98	105	104	102	101
	8	100	96	99	100	104	98	105	104	102	101
	9	100	96	99	100	104	98	105	104	102	101
	10	96	98	99	97	104	98	108	104	102	105
	11	98	98	99	97	104	98	108	104	102	105
	12	98	98	99	97	104	98	108	104	102	105
1993	1	99	103	99	98	104	90	105	105	103	111
	2	99	103	99	98	104	90	105	105	103	111
	3	99	103	99	98	104	90	105	105	103	111
	4	100	107	107	95	109	96	105	107	106	110
	5	100	107	107	95	109	96	105	107	106	110
	6	100	107	107	96	109	96	105	107	106	110
	7	97	104	107	98	108	92	107	106	106	105
	8	97	104	107	98	108	92	107	106	106	105
	9	97	104	107	98	108	92	107	106	106	105
	10	102	103	107	95	108	89	109	107	106	108
	11	102	103	107	95	108	89	109	107	106	108
	12	102	103	107	95	108	89	109	107	106	108
1994	1	109	100	107	100	110	75	108	109	108	113
	2	109	100	107	100	110	75	108	109	108	113
	3	109	100	107	100	110	75	108	109	108	113
	4	109	100	110	104	109	90	108	114	109	111
	5	109	100	110	104	109	90	108	114	109	111
	6	109	100	110	104	109	90	108	114	109	111
	7	104	91	110	108	110	93	111	114	110	107
	8	104	91	110	108	110	93	111	114	110	107
	9	104	91	110	108	110	93	111	114	110	107
	10	99	87	110	111	112	93	111	115	111	112
	11	99	87	110	111	112	93	111	115	111	112
	12	99	87	110	111	112	93	111	115	111	112
1995	1	97	92	110	118	113	85	111	119	113	116
	2	97	86	110	120	114	87	111	119	113	116
	3	98	84	110	124	115	87	111	119	113	116
	4	100	82	110	128	115	91	112	119	114	112
	5	99	81	110	128	115	95	112	119	114	112
	6	100	83	110	125	115	94	112	120	114	112
	7	102	81	110	121	115	90	112	120	115	111
	8	104	80	110	120	116	90	113	121	115	111
	9	106	80	110	119	116	93	113	121	115	111
	10	110	80	110	119	116	92	113	123	115	114
	11	115	77	110	121	117	92	113	124	114	114
	12	121	79	110	123	117	96	113	125	114	114
1996	1	124	74	110	126	118	100	113	123	114	119
	2	125	73	110	126	118	98	114	123	114	119
	3	128	72	110	130	119	104	114	124	114	119
	4	130	69	117	130	119	105	115	124	115	117
	5	137	70	117	128	117	105	114	124	115	117
	6	136	73	117	125	117	96	114	125	118	117
	7	138	75	117	124	117	97	115	125	118	113
	8	137	78	117	121	117	99	115	125	118	113
	9	133	80	117	122	118	102	115	125	118	113
	10	130	79	117	122	118	105	115	128	118	113

Appendix 5 --- Product Price Formulas vs. BFP

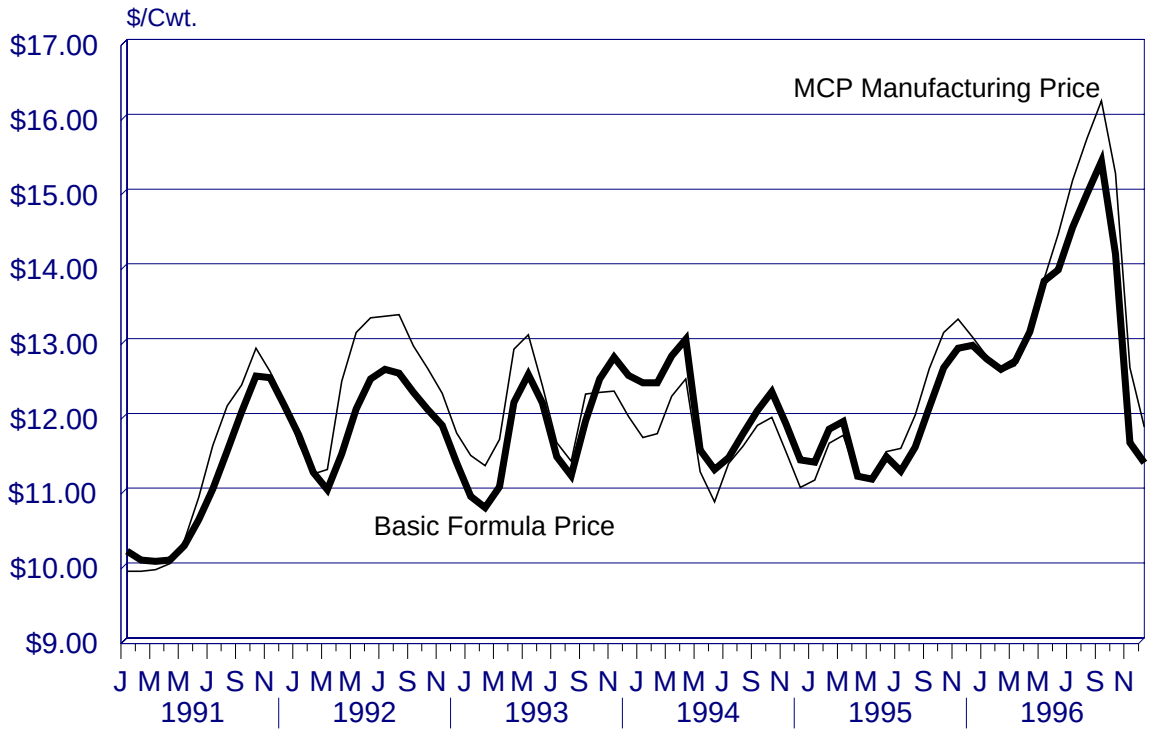
Appendix 5-1
Comparison Of The Basic Formula Price With MCP Cheese Product Yield Price



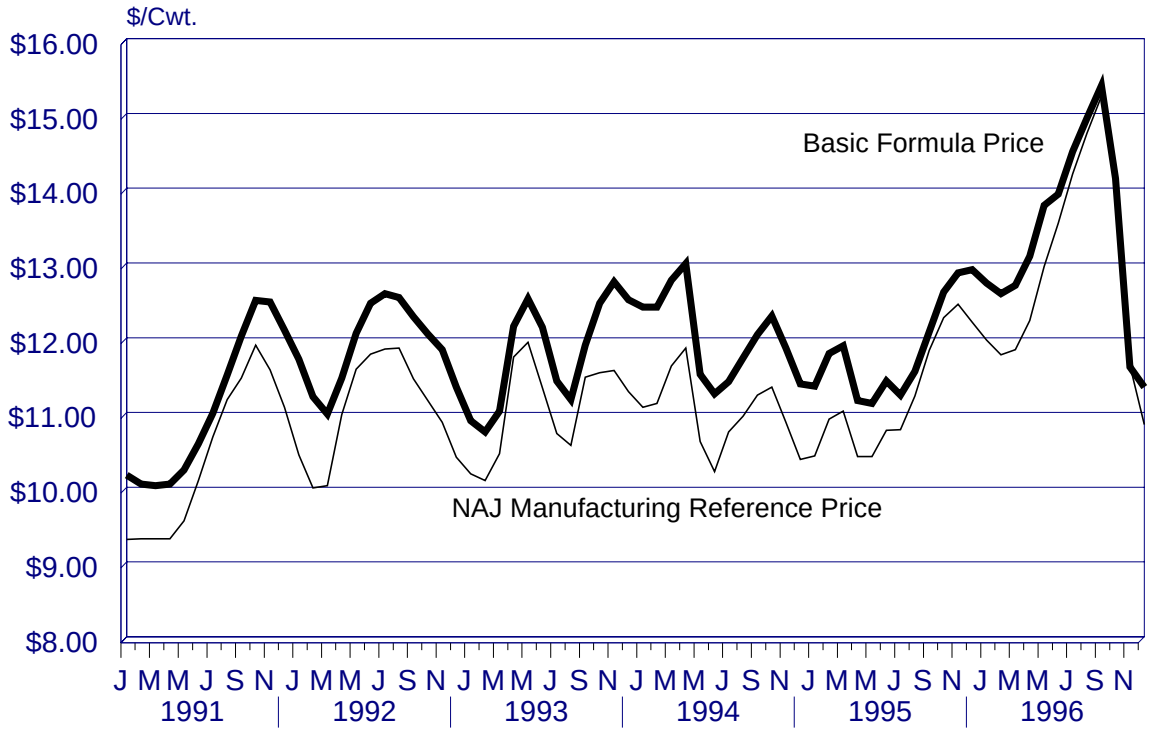
Appendix 5-2
Comparison Of The Basic Formula Price With MCP Butter/Powder Product Yield Price



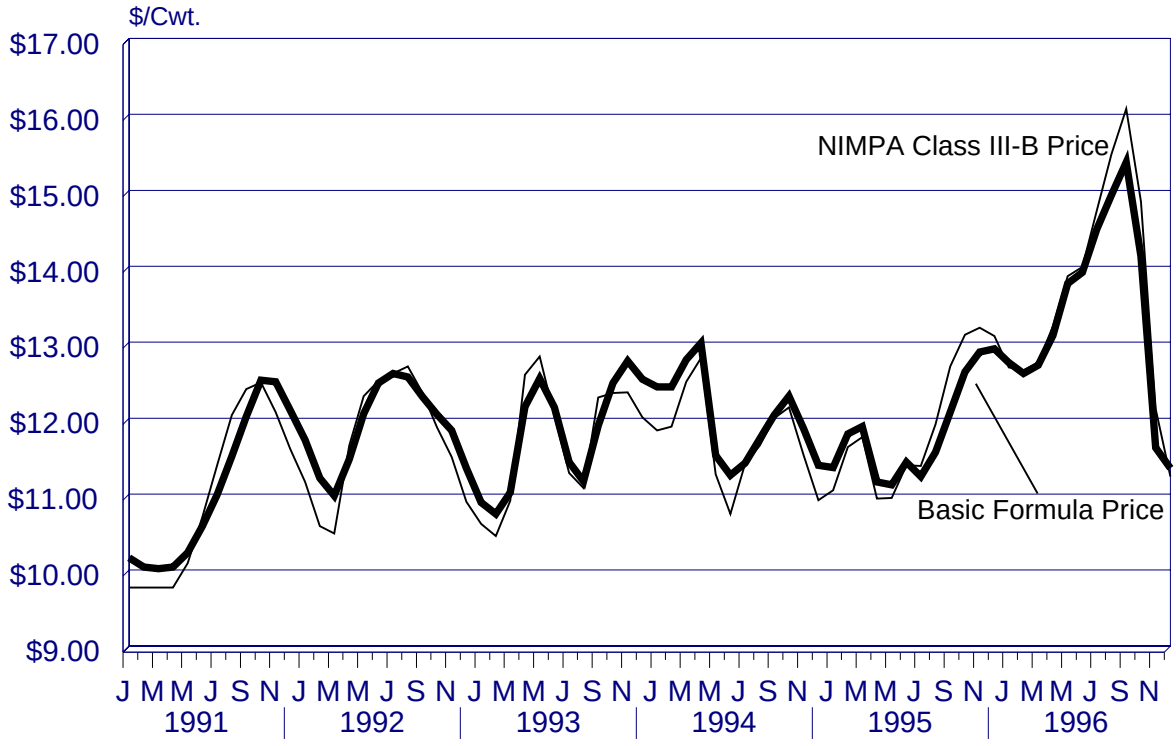
Appendix 5-3
Comparison Of The Basic Formula Price With MCP Manufacturing Price



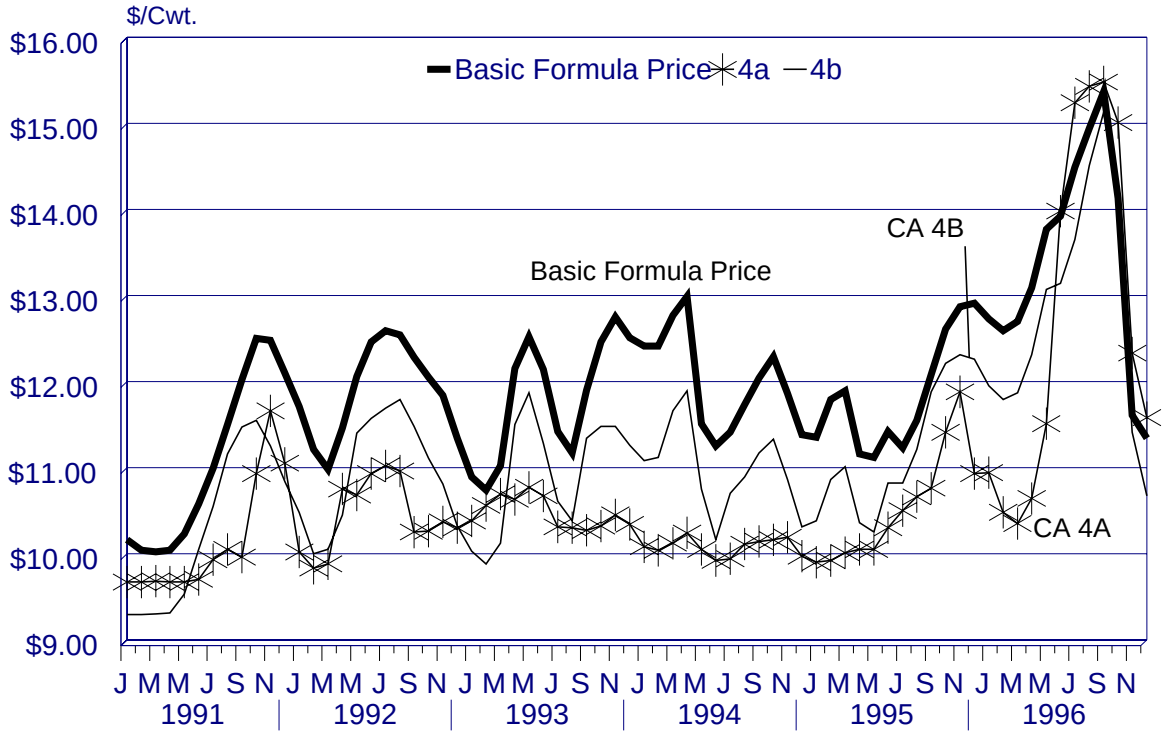
Appendix 5-4
Comparison Of The Basic Formula Price With NAJ Manufacturing Reference Price



Appendix 5-5
Comparison Of The Basic Formula Price With NIMPA Class III-B Price



Appendix 5-6
Comparison Of The Basic Formula Price With California 4A & 4B Prices



Appendix 6 --- Summary Of Comments

Basic Formula Price Federal Order Reform Comments

The following is a summarized list of Federal Order Reform comments which address the issue of a Basic Formula Price replacement. While there are currently over 522 comments, including 402 form letters, these comments include a representative sample.

FOR-3 Ober, Kaler, Grimes & Shriver Attorneys at Law, Charles M. English, Jr., on behalf of Hunter Farms, Milkco, Inc., Land O'Sun, Inc., and Piedmont Milk Sales, Inc. These parties support a BFP that represents a national price for all surplus milk products and incorporates a national make allowance. The comment suggests that markets simply pool the Class I differentials rather than have a BFP.

FOR-4 National All-Jersey, Inc., Calvin Covington, Chief Executive Officer, and Michael L. Brown, General Manager. National All-Jersey recommends an end-product pricing formula to allow each class to reflect product yields from milk, and provide for market-wide prices that reflect the predominant utilization for the milk in that market. The comment proposes replacing the current BFP with a Manufacturing Reference Price (MRP) that is intended to reflect the value of all milk used for manufactured hard products.

FOR-8 University Extension-University of Missouri, Columbia, Ken Bailey. Dr. Bailey said, "futures contracts for the first time show the true price discovery for Grade A milk for manufacturing purposes." The comment states that the current BFP undervalues Grade A milk used for manufacturing purposes, and observes that current price levels may result in economic hardship for various groups, thereby forcing them to leave the industry.

FOR-9 Land O'Lakes, Inc., Paul Christ, Vice President, Dairy Planning and Analysis. This comment proposes replacing the BFP with a price using the futures markets. The Class III price would be an average at which milk for the current futures contract month is being traded from the first of the month through the second-last trading day on the CSCE. The Class I price would be an average price at which milk for the futures month of the current quarter was trading during the preceding quarter on the CSCE.

FOR-15 Chenango County (New York) Farm Bureau, Ken Dibbell, Vice President and Chairman, Dairy Committee. The comment states that a basic formula price should be based on the cost of production on a regional basis, and requests that the BFP not use the National Cheese Exchange for setting prices.

FOR-17 United States Senate, Russell D. Feingold, U.S.S., et al. This comment from 10 U.S. Senators states that a single national price for manufactured products is needed since Class III products compete in a national market.

FOR-21 National Farmers Union (NFO), Eugene F. Paul, President. At its annual meeting, NFO membership endorsed a BFP based on cost-of-production using USDA cost-of-production data.

FOR-35 Ober, Kaler, Grimes & Shriver Attorneys at Law, Charles M. English, Jr., on behalf of Tillamook County Creamery Association (TCCA). While recognizing the problems in survey prices, end-product pricing and specific price formulas, TCCA endorses a specific formula that would address the following guidelines:

1. A single price for all surplus milk products.
2. A price that is national, not regional, and includes national "make" allowances.
3. A price that does not favor one region, cooperative or proprietary handler over another.

As an alternative to the BFP, TCCA suggests that only Class I differentials be pooled and the remainder of the milk be priced in a free market.

FOR-36 Ober, Kaler, Grimes & Shriver Attorneys at Law, Charles M. English, Jr., on behalf of Southern Foods Group, Inc., and Anderson-Erickson Dairy Co. These processors of fluid milk support the same proposals as in FOR-35.

FOR-39 Coffee, Sugar and Cocoa Exchange, Inc., James J. Bowe, President. CSCE's replacement proposal calls for using a weighted average of the actual prices established by the futures market. The market represents a competitive price with all trades being cleared through the exchange. CSCE provided USDA with data and a formula to compute this price, and submitted a second proposal at the Public Forum. (See FOR-73)

FOR-40 Northwest Independent Milk Producers Association (NWI), Andy Vander Meulen, NWI Marketing Director. NWI proposed a Class III-B representing butter and cheese. This price would be determined from the current butter and cheese markets and would include reliable West Coast markets. The difference between this manufactured price and the other class prices would be pooled. NWI endorses decoupling the Class I and II from this manufacturing market.

A later comment suggests that the BFP should be determined at a National Hearing held each year. USDA would render a decision in under 60 days. This price would remain in effect for one year. Class I and II differentials could be changed based on industry requests. These increased differentials would change the weighted average differentials paid to producers.

FOR-45 Darigold, Douglas C. Marshall, Vice President Public Affairs, Corporate Counsel, and Secretary. Darigold considers the current BFP a fair indicator of Midwest prices, while stating that the current price survey could be expanded to include A-B milk. Darigold supports using a different base price in the West and East to represent regional conditions. Darigold supports end-product pricing along the lines used in California, stating that prices for manufactured milk do not need to be uniform as long as the price disparities do not exceed a freight differential (cost of transporting product to various regions).

FOR-46 Hershey Chocolate North America. Audrey F. Throne, Manager, Dairy and Miscellaneous Ingredients. Hershey states that the utilization of the futures market would allow dairy producers to have some control over their price rather than being price takers, commenting that the current enforcement of minimum prices that may be greater than an agreed-upon futures price discourages proprietary firms from participating in the futures market. The Hershey comment also states that the futures market provides processors and manufacturers an opportunity to hedge their price risk.

FOR-48 International Dairy Foods Association (IDFA) and its three constituent organizations, E. Linwood Tipton, President & CEO. IDFA submitted two suggestions. Suggestion one favors the harmonization of manufacturing milk prices. IDFA suggests using a price that reflects the value of competitive manufacturing milk in the West adjusted for transportation costs to the Midwest. Suggestion two favors elimination of the BFP and pooling only Class I differentials.

FOR-54 Wisconsin Cheese Makers Association (WCMA), John T. Umhoefer, Executive Director. The WCMA proposes that the BFP be entirely formula-driven. The formula would use the current cash markets but must represent the value for all manufacturing milk nationwide. WCMA proposes that USDA use a formula to determine the price for one week that would be used in the subsequent week. Producers would be paid on a monthly or semi-monthly average of these weekly prices. Such advance pricing would allow industry to know its raw material costs.

FOR-58 Lakeshore Federated Dairy Co-operative, James L. Kalkofen, Dairy Consultant. Lakeshore proposes that an A-B price series without performance premiums replace the current BFP. This price would be the same in all Federal orders. Lakeshore objects to using a product price formula or a price derived from the futures market.

FOR-61 Upper Midwest Dairy Coalition, Will Hughes, Representative. The Upper Midwest Coalition supports an A-B competitive price series, which would not include performance premiums. To update the A-B price from the previous month, the Coalition proposes a product price formula similar to the procedure used to calculate the current BFP. The Coalition states that Grade A milk futures may be a better predictor of milk value than either competitive pay prices or product price formulas, but is not valid at this time due to lack of liquidity.

FOR-62 Vella Cheese Company of California, Inc., Ignazion A. Vella, CEO. In response to USDA's request for comments at the Basic Price Open Forum, this cheese plant operator proposes that prices for the BFP be collected on a regional basis.

FOR-64 The Trade Association of Proprietary Plants (TAPP), Robert J. Williams. Comments from TAPP propose that USDA use the Minnesota-Wisconsin Grade A-B price minus an industry agreed-upon amount of $0.25-$0.40 cwt., as a BFP replacement. The data would be collected and compiled in the same manner as the current BFP.

FOR-65 Chicago Mercantile Exchange (CME), Robert J. Prosi and Brian O. Shannon, Jr. The CME stated that auction markets allow the forces of supply and demand to determine a price. They suggested more regional spot delivery markets to indicate the value of milk for all purposes. The CME comments state that the fluid milk and butter markets exist to aid in price discovery and transfer price risk.

FOR-66 and FOR-139 Milspaw & Beshore Attorneys at Law, on behalf of the National Farmers Organization, Inc. (NFO). NFO proposes that USDA use a competitive pay price series which includes both Grade A and B milk, including the non-pooled milk in the Minnesota-Wisconsin area. The proposal includes the elimination of certain premiums in the A-B series. NFO suggests that manufacturing plants participating in the survey be allowed to pay less than the minimum blend price. NFO also proposes the development of a new product price series as an updater to the A-B survey.

FOR-67 (FOR-67 through FOR-97, Open Forum Comments) William Oemichen, Administrator of the Division of Trade & Consumer Protection of the Wisconsin Department of Agriculture, Trade & Consumer Protection. Mr. Oemichen supports the proposal for competitive pay prices made by the Upper Midwest Dairy Coalition (FOR-61). The comment states that when more data is available a futures-based price has the potential to be used as the BFP replacement.

FOR-69 University of Wisconsin Cooperative Extension, Robert Cropp. Dr. Cropp suggests several options as replacements for the BFP.

1. Competitive Pay Price—This includes a Grade B, Grade A-B, Grade A, and a futures price.
2. Product Price Formulas and End-Product Pricing
3. Multiple Component Pricing—Valuing the milk based on its components which have different values depending upon use.
4. No Minimum Price—Market forces will determine the value of Class III milk.

Cropp supports a MCP price. Component values can be derived using manufactured dairy product prices. MCP pricing is the market-oriented approach to milk pricing.

FOR-70 Cornell Program on Dairy Markets and Policy, Mark Stephenson. Dr. Stephenson considers that, by default, product prices are the best choice for a BFP replacement. The competitive pay price represents a declining market. A Grade A-B price series would work only if the Grade A milk was not pooled under a Federal order. A futures market price is based on a market that is currently too immature. Economic formulae require constant revision. A product price formula, therefore, is the best alternative for the current BFP. Stephenson supports pricing the components in milk; butterfat, protein, solids-not-fat, and a carrier derived from butter, cheese and NFDM.

FOR-73 Coffee, Sugar, and Cocoa Exchange (CSCE), James J. Bowe, President. The CSCE supports using a weighted average of the prices of all competitively-executed transactions that occur each day (except the last) during the calendar month in which the contract expires. These dairy weighted average prices would result in a monthly weighted average price. (See FOR-9)

FOR-74 National Cheese Institute (NCI), Mary Keough Ledman. The NCI proposed two options as replacements for the BFP. No replacement should exceed the current BFP price levels and the price should apply to all regions. Option one uses product price formulas as follows:

1. A weighted average of the California 4a and 4b pricing formula;
2. The California 4a and 4b prices as separate classes; and
3. A Western butter, powder, and cheese product formula.

Option two has no BFP and instead pools the Class I differentials.

FOR-75 Milk Industry Foundation (MIF) and International Ice Cream Association (IICA), Gary A. Corbett, Vice President, Governmental and Dairy Industry Relations, Dean Foods Company. These two organizations support product pricing as in FOR-74 plus a Western States price based on a competitive pay price series. The Western States price plus transportation to the Midwest would be the BFP. The organizations also support no BFP and pool the Class I differentials.

FOR-76 Peter L. Hardin, Editor/Publisher—The Milkweed. Mr. Hardin recommends a formula similar to that used in California to determine the Class I price. The BFP would use the following elements in the following proportions.

1. Commodity references—80% of the manufacturing class price would be a monthly average of the Wisconsin Assembly Point price for cheddar cheese.
2. Cost of production—15% of the manufacturing class price would use the indices of feed costs, fuel costs, and interest rates.
3. Consumer's Dairy Product Costs—5% would incorporate a factor derived from the Consumer Price Index (CPI).

FOR-77 Western States Dairy Producer Trade Association, Benjamin F. Yale. This association proposes that the BFP be replaced with a fair current competitive price using product prices. Prices would come from current product markets. However, USDA would survey and audit to verify actual product prices. The competitive price would include hauling subsidies, thirteenth checks, and premiums. Western States supports multiple component pricing. The payments would be based on a five-class market: the current four classes and the division of the current Class II into protein and solids-not-fat products. Components would include protein, fat, and solids-not-fat.

FOR-78 Agri-mark Dairy Cooperative, Robert Wellington, Senior Vice President. Agri-Mark states that a product price formula similar to the California system has merit. The California system uses audited end-product pricing information for manufactured products and a decoupled Class I price.

FOR-79 Louisiana Farm Bureau, Ed Joiner, Chairman of the Louisiana Farm Bureau Federation Dairy Advisory Committee. Louisiana Farm Bureau advocates decoupling the Class I from the current basic formula price. Pricing under the Federal order system would take into account the unique characteristics in the various regions. Changes in the cheese market do not mean that the supply and demand in the fluid market has changed. The current pricing system reflects changes in the base price to Class I milk several months after the basic formula price increase. The Bureau suggests a system similar to California State where the Class I price would change only quarterly.

FOR-80 National All-Jersey, Mike Brown, General Manager. National All-Jersey (NAJ) supports end-product pricing based on the product yields for all classes of milk. Using product prices and the Van Slyke cheese yield formula, NAJ calculates various class prices and a Manufacturing Reference Price. (See FOR-4)

FOR-81 Milk Marketing Inc. (MMI), Joseph C. Mathis, Senior Economist and Policy Analyst. MMI proposes that the basic formula price continue to be a competitive pay price, rather than derived from wholesale prices for end-products (i.e., a product formula price).

FOR-82 University Steering Committee (USC), Joe L. Outlaw, Texas A&M University. The USC is analyzing several BFP alternatives.

1. Cost of production
2. Competitive pay price alternatives
3. Futures market alternatives
4. Product prices using fat, protein, lactose, and ash components
5. Three types of product price formulas.

FOR-83 The Alliance of Western Milk Producers, James Tillison, Executive Director. The Alliance states that USDA should implement true multiple component pricing of milk in all price classes based on end-product value by classified use. The BFP would recognize the values of milkfat, solids-not-fat, protein, and fluid carrier to consumers. Minimum solids content in fluid products would be established to equalize raw product cost among all processors. The multiple component pricing system utilized in most federal orders redistributes the pool of money the various uses of milk generate. The Alliance suggests a single national price for manufactured products and regional pricing for fluid milk.

FOR-84 Western United Dairymen, Jay F. Goold, Executive Vice President. The Western Dairymen group recommends product value pricing or end-product pricing. The current product market prices published each week provide dairymen with current values. Western United Dairymen recommend a plant cost audited make allowance similar to the program used in California. Western United Dairymen support multiple-component pricing and favor the National All-Jersey plan. (See FOR-4 and FOR-80)

FOR-85 Upper Midwest Dairy Coalition, Will Hughes, Director of Dairy Policy and Business Development for the Wisconsin Federation of Cooperatives. The Coalition supports a surveyed Grade A-B price effective for the Upper Midwest and for other major manufacturing areas. The Coalition considers the Grade A and Grade B price an accurate measure of prices being paid in Minnesota and Wisconsin. For use in all Federal orders, the Federal order draw and quality premiums would be eliminated.

FOR-86 Douglas Marshall, Darigold, Inc. Darigold proposes that milk used in manufactured products be priced according to its end use using the commodity markets for price discovery. Darigold supports pricing for fluid and manufactured products separately.

FOR-87 California Dairy Campaign, Francis Pacheco, General Manager. CDC supports a BFP that is a combination of a competitive A-B price and end-product pricing. The end-product pricing would include an adjuster for producer production costs.

FOR-88 National Farmers Organization, Ken Linquist, Wisconsin State President. The Wisconsin NFO producers suggest that a replacement BFP incorporate producers' costs of production. NFO considers a price that uses either the National Cheese Exchange or the Chicago Mercantile open to manipulation.

FOR-89 National Farmers Organization, Eugene Paul, President. National Farmers Organization proposes that producer milk prices be based on dairy producers' actual milk production costs. Dairy farmers must work together to obtain milk prices that cover their production costs. A competitive Grade A-B price for milk in the Midwest area would accurately reflect the manufactured cost of milk.

FOR-90 Brian D. Stooksbury, Milk Producer, Jefferson City, Tennessee. The Tennessee milk producers support a replacement BFP that addresses regional producers' costs. This price would incorporate butterfat and solids-not-fat differentials.

FOR-91 Tillamook County Creamery Association, Harold Schild, General Manager. TCCA recommends a national audited pay price for all manufacturing milk, e.g., used in cheese, butter, powder, used in the United States. A less desirable alternative would base the manufacturing value of milk on an audited, true end product pricing formula, using realistic yield formulas and make allowances which encourage manufacturing efficiencies.

FOR-92 and FOR-93 Dairylea Cooperative Inc., Edward W. Gallagher, Director of Planning and Regulatory Policy. Dairylea suggests that competitive pay prices are the most efficient method of determining the value of milk. However, new alternatives would be acceptable if they result in a price that approximates the national value of milk used in manufactured products.

FOR-94 US Farmers Association, Arnold Gudex, Director. A replacement BFP would be based on the farmers' cost of production and parity.

FOR-95 US Farm News, William L. Gudex, Editor. A replacement BFP would be based on the farmers' cost of production.

FOR-97 Robert J. Williams, Dairy Consultant. A valid and reliable competitive price would be the replacement for the current BFP. Williams suggests a Grade A-B survey price less $0.25 to $0.40. (See FOR-64)

FOR-99 Wisconsin Farmers Union, Laverne Neisius, Clark County President. Wisconsin Farmers Union supports a replacement BFP as outlined by the Upper Midwest Coalition in FOR-61.

FOR-100 R & R Dairy Service, Robert J. Williams, Dairy Consultant. Mr. Williams proposes the M-W A-B price which reflects the full value of milk for manufacturing purposes (both "A" and "B" milk) minus $0.25 to $0.40/ cwt. (See FOR-64)

FOR-101 National Farmers Organization, Leland H. Townsend, Dairy Producer. A replacement BFP would reflect the farmers' cost of producing milk. This data would be obtained from USDA Economic Research Service, Dairy Outlook.

FOR-105 Western States Dairy Producers Trade Association, Benjamin F. Yale. The Association supports a BFP which represents the value of milk based on the value of dairy products. These product prices would be announced weekly and a monthly value would be computed using a daily weighted average of these prices. The Association supports national MCP for both handlers and processors.

FOR-106 Silver Sky Dairy, Lance Johnson, Dairy Producer. This proposal recommends multiple component pricing. The price for milk would be based on the value of the various components. The components would be on a national level.

FOR-109 Silver Sky Dairy, Lance Johnson, Dairy Producer. A replacement price using electronic reporting of all butter and cheese sales would be used to eliminate the possibility of price manipulation and increase producers' confidence. (See FOR-106)

FOR-111 Mid-America Dairymen, Inc., Gene Koopman, Chairman, Milk Producers Council. Mid-Am proposes product prices for manufactured products, and supports four classes of milk with Class III and IV being derived from product price formulas. Class III would use the National Cheese Exchange price for 40-pound block cheese times a factor. Class IV would use a formula similar to the current Class III-A price. The prices would be higher in the Midwest than in the West.

FOR-112 Brown Swiss Cattle Breeders' Association of America, John M. Meyer, Executive Secretary. The Brown Swiss Cattle Breeders' Association of the USA supports national multiple component pricing.

FOR-114 Georgia Farm Bureau Federation, Wayne Dollar, President. The Georgia Farm Bureau advocates decoupling the Class I from the current basic formula price. Changes in the cheese market do not mean that the supply-demand relationship in the fluid market has changed. The current pricing system reflects changes in the base price to Class I milk several months after the basic formula price increase. The Georgia Farm Bureau suggests a system similar to California, where the Class I price would be changed only quarterly. (See FOR-79)

FOR-121 Milk Marketing Inc. (MMI), Rodney K. Carlson, Vice President Member Services and Economics. MMI observes that the varying supply and demand for Class I and Class II products are influenced by regional conditions and, therefore, are not directly tied to the current BFP. They suggest decoupling the Class I and Class II prices from the BFP, which would act as a national market clearing price for the more storable dairy products.

FOR-122 Wisconsin Farm Bureau Federation, Gary L. Anderson, Dairy Producer. A BFP would be established using a competitive basis. Prices would be national in nature, not regional, to avoid regional infighting.

FOR-123 Georgia Milk Producers, William A. Moore, Executive Director. Like the Georgia Farm Bureau, the Georgia Milk Producers advocate decoupling the Class I price from the BFP. They also suggest a system similar to California State where the Class I price would be changed only quarterly or tied to a long-run moving average of the BFP.

FOR-124 Land O'Lakes, Inc., Paul G. Christ, Vice President, Dairy Planning and Analysis. Land O'Lakes supports the Upper Midwest Coalition's suggested competitive Grade A-B price. They stipulate that surveyed prices must be from areas that have vigorous competition for manufacturing milk. Land O'Lakes suggests a BFP using the milk futures price with an estimated Upper Midwest basis deducted. This basis consists of the Grade A-B survey price and a factor representing the various performance premiums. Christ notes that by the time a new basic formula price is adopted there will be more data available.

FOR-127 and 132 Benjamin F. Yale & Associates Co., L. P. A. on behalf of Western States Dairy Producers Trade Association (WSDPTA). WSDPTA recommends adopting a Current Competitive Price (CCP) to replace the current BFP. The Association proposes a product price with a competitive Grade A adjustment as follows:

Current Product Price + (Previous Competitive Price - Previous Product Price) - Adjuster Product Price - The Wisconsin Assembly Point Price for 40 pound block cheese (reported in Dairy Market News) times 10.1 (yield factor for 100 pounds of milk at 3.5 percent butterfat) less $1.21 (preliminary make allowance of $1.36 used by CCC less $0.16 to represent the whey value in 100 pounds of milk). The Current Product Price would be calculated weekly, multiplied by the number of days that the price would apply. These prices would be totaled and divided by the number of days in the month to obtain a weighted average price for the month.

Competitive Price - Grade A-B manufacturing price would include premiums but exclude hauling and the Federal order pool draw. Proposal includes hauling subsidy.

Adjuster - Estimated at $0.35 this represents the difference between the Upper Midwest protein content and the national average protein content in milk and other factors. (See FOR-77, FOR-105, and FOR-132)

FOR 128 Phillip F. Gudgeon, Dairy Producer and Commodity Futures Broker. Mr. Gudgeon proposes an average future settling price replacement. The plan is similar to the CSCE proposal; however, a weighted daily settling price for both the Chicago Mercantile and the Coffee, Sugar and Cocoa Exchange would be combined to arrive at the monthly average price (excluding the last trading day of the month) which would be the replacement price.

FOR 129 International Dairy Foods Association, Milk Industry Foundation, International Ice Cream Association, and National Cheese Institute. These groups support elimination of the BFP. They would regulate only Class I and the differentials would be pooled. IDFA submitted a product price formula with a transportation adjuster for calculating a BFP if elimination of the current BFP is unacceptable. The proposed BFP is derived from the monthly average of the National Cheese Exchange 40 pound block price times 9.87 (yield factor for 100 pounds of milk at 3.5 butterfat) plus the value of whey (monthly average CME Grade A butter times a yield factor of .238) minus a make allowance of $1.80.

FOR-132 Benjamin F. Yale & Associates Co., L. P. A. on behalf of Western States Dairy Producers Trade Association (WSDPTA). Corrected computation of competitive pay price. (See FOR-127)

FOR-133 G. C. Cook, Dairy Producer. Supports a replacement BFP using cost of production plus profit as a base.

FOR-134 Benjamin F. Yale & Associates Co., L. P. A. on behalf of California Dairy Campaign (CDC). The CDC group supports the Western States Dairy Producers Trade Association replacement of the BFP/California 4(a) price with a product price and competitive Grade A adjustment.

FOR-135 Upper Midwest Dairy Coalition, Will Hughes, Representative. The Coalition supports a Grade A or Grade A-B competitive pay price. The Grade A price (based on selected manufacturing plants in the Chicago Regional Order[1]) would exclude the Federal order pool draw, performance premiums (quality and volume), and over-order value. The Grade A-B price would be adjusted for performance premiums. The Coalition comment states that, in most respects, no BFP is preferable to a formula-based BFP.

[1] Staff Paper 96-1, "Prices Paid For Grade A Milk By Selected Manufacturing Plants In Minnesota and Wisconsin: 1995", By John A. Schmit, Rodney M. Sebastian and Victor J. Halverson. pp. 8-10. A-1.

FOR-138 Teresa Doyle. Ms. Doyle supports a cost-of-production plus profit as a base.

FOR-139 Milspaw & Beshore Attorneys at Law, on behalf of the National Farmers Organization, Inc. NFO proposes a competitive pay price rather than a product price formula but gives no further information. (See FOR-66)

FOR-140 Clint Van Vleet, Dairy Producer. Mr. Van Vleet suggests a national electronic cash exchange for price discovery. This would be the price for all raw milk regardless of how that milk is finally used.

FOR-142 John Paradies, Upper Midwest Milk Producers Association. This group proposes that USDA set the base price using the average cost of production as reported by USDA, plus an inflation adjuster to have the production costs equal their current value. A one-time 10 percent return on operating costs would be incorporated. The Grade B milk price would be one dollar less than the Grade A price.

FOR 142-150, 152-153, 158-232, 238-246, and 251-263 Dairy Producers. These producers support a BFP that incorporates cost-of-production plus inflation adjusters as stated in FOR-142.

FOR-236 Pennsylvania State Grange, Brenda J. Shambaugh, Legislative Director. Grange members support a BFP frozen at no less than $15.00 per hundredweight.

FOR-237 National Farmers Organization, Eugene F. Paul. President. NFO requests elimination of the National Cheese Exchange as a factor in calculating the basic formula price.

FOR-292 Borden/Meadow Gold Dairies, Inc., Anthony R. Ward, President and CEO. Borden/Meadow Gold recommends that the BFP and an average butterfat differential be released quarterly, stating that quarterly prices would relieve current price volatility.

FOR-487, 489 Dairy Producers. Cost of production plus inflation adjusters as stated in FOR-142.

FOR-490 Mid-America Dairymen, Inc., Gail Higginbotham, Dairy Producer. Ms. Higginbotham submitted a letter from Mid-America Dairymen requesting that Class I and II prices be decoupled from Class III and that Class III have a set minimum of $13.50.

FOR-493-494 Dairy Producers. Cost of production plus inflation adjusters as stated in FOR-142.

FOR-495 Ed Jesse, Associate Dean, University of Wisconsin-Madison. Jesse proposes serious consideration of economic formulas to reflect supply and demand conditions in the dairy industry. Economic formulas can diminish price volatility and can decouple milk pricing from the NCE.

FOR-511-513, 547, 548, 551, 558, 560, 610, 616, 618, 620, 632, 637, 638. Many recent comments have addressed the question of flooring the BFP and have questioned the use of the National Cheese Exchange. These issues are being discussed and will be addressed separately from this report.

FOR-540 Superior Dairy, Joseph A. Soehnlen, CEO, Chairman. Mr. Soehnlen proposes that butterfat costs be forward priced as are Class I and Class II costs per cwt.

FOR-594 Northwest Independent Milk Producers Assn., Andy Vander Meulen, NWI Marketing Director. NWI proposes a method to establish a “base price” for Class I and Class II to correct inequity to producers and provide a pricing method that is stable and in the best interest of the public.

FOR-597 Arps Dairy, Inc., Stephen L. Boomer, President. The comment states that Class I price adjustments need to be made on a quarterly basis.

FOR-598 Cherub Dairy Farm, Major K. & Lucile A. Bond. This comment proposes quotas (as in sugar, cotton, etc.) to control the volume of milk and keep prices stable.

FOR-599 Luke Heppe. Commenter states that the cost of production for each order should be the main factor in the monthly pricing of milk.

FOR-640 Jan Morrow. Develop a pricing system based solely on the cost of production.

Appendix 7 --- Economic Formula Prices

Current Basic Formula Price And Proposed Economic Formulas					
	Basic Formula Price $/cwt	Hardin Formula Price $/cwt	Hardin Difference From BFP $/cwt	Jesse Economic Formula Yield Adj. (.6/.2/.2) $/cwt	Jesse Difference From BFP $/cwt
Jan	10.16	11.16	1.00	--	--
Feb	10.04	11.15	1.11	--	--
Mar	10.02	11.15	1.13	--	--
Apr	10.04	11.15	1.11	--	--
May	10.23	11.34	1.11	--	--
Jun	10.58	11.78	1.20	--	--
Jul	10.99	12.22	1.23	--	--
Aug	11.50	12.63	1.13	--	--
Sep	12.02	12.86	0.84	--	--
Oct	12.50	13.22	0.72	--	--
Nov	12.48	12.98	0.50	--	--
Dec	12.10	12.60	0.50	--	--
91 Avg	**11.06**	**12.02**	**0.97**	**--**	**--**
Jan	11.71	12.06	0.35	11.88	0.17
Feb	11.21	11.68	0.47	11.49	0.28
Mar	10.98	11.70	0.72	11.43	0.45
Apr	11.46	12.45	0.99	11.65	0.19
May	12.06	12.95	0.89	11.68	-0.38
Jun	12.46	13.12	0.66	11.75	-0.71
Jul	12.59	13.19	0.60	11.87	-0.72
Aug	12.54	13.20	0.66	11.95	-0.59
Sep	12.28	12.88	0.60	11.92	-0.36
Oct	12.05	12.65	0.60	11.89	-0.16
Nov	11.84	12.41	0.57	11.83	-0.01
Dec	11.34	12.02	0.68	11.70	0.36
92 Avg	**11.88**	**12.53**	**0.65**	**11.75**	**-0.13**

Current Basic Formula Price And Proposed Economic Formulas

	Basic Formula Price $/cwt	Hardin Formula Price $/cwt	Hardin Difference From BFP $/cwt	Jesse Economic Formula Yield Adj. (.6/.2/.2) $/cwt	Jesse Difference From BFP $/cwt
Jan	10.89	12.12	1.23	11.63	0.74
Feb	10.74	12.02	1.28	11.52	0.78
Mar	11.02	12.31	1.29	11.55	0.53
Apr	12.15	13.35	1.20	11.87	-0.28
May	12.52	13.51	0.99	11.79	-0.73
Jun	12.14	13.06	0.92	11.72	-0.42
Jul	11.42	12.56	1.14	11.64	0.22
Aug	11.17	12.46	1.29	11.73	0.56
Sep	11.90	13.18	1.28	11.63	-0.27
Oct	12.46	13.22	0.76	12.16	-0.30
Nov	12.75	13.25	0.50	12.18	-0.57
Dec	12.51	13.05	0.54	12.04	-0.47
93 Avg	**11.81**	**12.84**	**1.03**	**11.79**	**-0.02**
Jan	12.41	13.02	0.61	12.18	-0.23
Feb	12.41	13.05	0.64	12.11	-0.30
Mar	12.77	13.45	0.68	12.10	-0.67
Apr	12.99	13.64	0.65	12.12	-0.87
May	11.51	12.62	1.11	11.88	0.37
Jun	11.25	12.33	1.08	11.85	0.60
Jul	11.41	12.73	1.32	11.99	0.58
Aug	11.73	12.91	1.18	12.09	0.36
Sep	12.04	13.09	1.05	12.17	0.13
Oct	12.29	13.20	0.91	12.18	-0.11
Nov	11.86	12.84	0.98	12.08	0.22
Dec	11.38	12.44	1.06	11.95	0.57
94 Avg	**12.00**	**12.94**	**0.94**	**12.06**	**0.06**

Current Basic Formula Price And Proposed Economic Formulas

	Basic Formula Price $/cwt	Hardin Formula Price $/cwt	Hardin Difference From BFP $/cwt	Jesse Economic Formula Yield Adj. (.6/.2/.2) $/cwt	Jesse Difference From BFP $/cwt
Jan	11.35	12.37	1.02	12.08	0.73
Feb	11.79	12.77	0.98	12.04	0.25
Mar	11.89	12.87	0.98	12.04	0.15
Apr	11.16	12.33	1.17	11.94	0.78
May	11.12	12.39	1.27	11.89	0.77
Jun	11.42	12.65	1.23	12.03	0.61
Jul	11.23	12.66	1.43	12.28	1.05
Aug	11.55	13.03	1.48	12.50	0.95
Sep	12.08	13.52	1.44	12.67	0.59
Oct	12.61	13.86	1.25	12.96	0.35
Nov	12.87	14.04	1.17	13.11	0.24
Dec	12.91	13.88	0.97	13.16	0.25
95 Avg	**11.83**	**13.03**	**1.20**	**12.39**	**0.56**
Jan	12.73	--	--	13.12	0.39
Feb	12.59	--	--	13.03	0.44
Mar	12.70	--	--	13.05	0.35
Apr	13.09	--	--	13.12	0.03
May	13.77	--	--	13.46	-0.31
Jun	13.92	--	--	13.69	-0.23
Jul	14.49	--	--	14.01	-0.48
Aug	14.94	--	--	14.17	-0.77
Sep	15.37	--	--	14.16	-1.21
Oct	14.13	--	--	13.77	-0.36
Nov	11.61	--	--	13.11	1.50
Dec	11.34	--	--	12.92	1.58
96 Avg	**13.39**	**--**	**--**	**13.47**	**0.08**

Appendix 8 --- Milk Production Trends

The following maps depict data for estimated milk production in the year 2000 by state and by region.

Estimated per capita production is also provided.

These estimates were developed by the BFP Committee and are not based on official USDA data.

The maps associated with Appendix 8 may be found in a seperate file named BFPMAP.PDF